

CLAYTONIA

Newsletter of the Arkansas Native Plant Society

Vol. 23 No. 1

Winter 2003

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President's Letter

by Mary Ann King

What a wonderful fall meeting we had at Harrison – the weather as near perfect as one could ask for in October! I don't know exactly how many attended... I saw lots of friends & familiar faces... But then I also missed many friends. Carl Amason did his usual excellent job as auctioneer, bringing in a good amount for our treasury. Thanks to everyone who participated.

This is my first letter to you as president of this fine group; there's so much I want to say but at the same time, I don't exactly know what to say.

Very importantly, I especially want to thank Martha Milburn for her help in hosting the fall meeting. I don't know how we would have done it without her.

Next, I would like to issue a challenge to all ANPS members. Please invite one new YOUNG person to join our group. Pay their dues for a year if necessary! Get them interested! Look around us at the median age of our members if you have any doubts that we need to recruit some younger than us. I for one do not want this organization to fade away. We need to aggressively seek out people of all ages & invite them to join ANPS. Give memberships for Christmas, birthdays, etc.!

Does anyone have other ideas how to find these new members? Call me, write me, tell me what you think might work. My phone is 479-293-4359. My e-mail address is:
office@pineridgegardens.com.



Minutes of the Oct. 12, 2002 General Meeting

by Sue Clark, ANPS Secretary

The general meeting of the Arkansas Native Plant Society was called to order at 7:00 o'clock p.m., at the Little Theater building of North Arkansas College South Campus in Harrison, Arkansas, by the President, Lana Ewing.

SECRETARY'S REPORT: Catherine Hepinstall moved that the minutes of the April 13, 2002, meeting be approved as printed in the Claytonia. Carl Amason seconded. The minutes were approved.

TREASURER'S REPORT: Al Hecht distributed what has been submitted to the IRS for the tax exempt status, and announced that the by-laws of ANPS may have to be changed to conform to Act 176 of 1963, the Arkansas Non-Profit Act.

Al reported that the auction on Friday had brought in \$1,048.00. The Treasurer's Report was distributed showing that as of October 12, 2002, the ANPS operating fund was \$8,246.51; The Dwight Moore Award Fund balance is \$4,091.08; the Aileen McWilliam Scholarship Fund is \$8,003.66; and the Delzie Demaree Research Grant Fund is \$6,842.64. There is \$360.86 in the Arkansas Flora Project Fund. The total balance is \$19,298.24.

Mary Ann King moved that the Treasurer's report be approved; Dr. Henry Robison seconded; the Report was approved.

OLD BUSINESS: Carl Hunter reported on the progress of highway wildflower projects and mentioned Eureka Springs, Pinnacle Mountain State Park, Wildwood in Little Rock, the UALR Alumni Center, and Garvan Woodland Gardens in Hot Springs as planting native wildflowers. Carl urged ANPS to get into a community garden, working with Master Gardeners. Carl asked that we let him know of any wildflower gardens. He would like to make a booklet identifying wildflower gardens and where they are located in the state.

Theo Witsell reported on the Flora of Arkansas Project. The Project is sponsoring a meeting in October of 2003 on rare and invasive species in Arkansas.

Eric Sundell distributed information on the Audubon Ecology Camp for 11-12 year olds. ANPS has sponsored two children in the past to attend the camp at a cost of \$500.00. Thera Lou Adams moved that ANPS sponsor the children again this year; Jude Jardine seconded, the motion passed.

Catherine Hepinstall presented the Nominating Committee slate of officers as follows: Vice-President, Burnetta Hinterthuer; Treasurer, Barbara Little; Editor, Theo Witsell. There being no nominations from the floor, Eric Sundell moved that the slate be accepted by acclamation; Linda Gatti Clark seconded, the motion passed.

NEW BUSINESS: Jude Jardine presented a proposal concerning ANPS making a field guide to invasive species and exotic plants perhaps to be put in a binder or some format that can be added to. Her cost estimation is about \$3.00 per book. Jude is volunteering to do the compilation but would be looking for help from members of ANPS in providing information on species; images, good pictures; putting it together; and getting the information out to the members of ANPS. The information could be put on our web site as a supplement. The motion was made that ANPS accept the project and fund it, with the understanding that members will buy the book. Theo Witsell seconded the motion. The motion passed. Jude's address is: Jude Jardine, 206 Branch Street, Lonoke, AR. Her e-mail address is jardinejk@earthlink.net.

The spring meeting is tentatively set to be at DeGray State Park. Linda Gatti Clark will be coordinating that meeting.

ANNOUNCEMENTS: Theo Witsell announced that the field trips Sunday will be to Lead Hill and Carrollton Glade, an 80-acre Corps of Engineers restoration project.

The business meeting was adjourned and Lana Ewing introduced Carl Slaughter who presented a program on the reproduction of vascular plants.

Respectfully submitted,
Sue Clark, Secretary

The Arkansas Flora Project:

Background, Progress Report, and Upcoming Events

by Jim Peck and Johnnie Gentry

ARKANSAS VASCULAR FLORA PROJECT

The project will result in the publication of the *Manual of the Vascular Plants of Arkansas*. It will include illustrations, descriptions, and keys for all plants known to occur in the state, as well as introductory chapters on the natural areas, plant communities, and geology. This Manual will serve as the definitive reference about Arkansas vascular plants. It will be of great value to researchers and students at educational institutions and will be the textbook of choice for all plant taxonomy courses taught in the state. In addition, employees of state and federal agencies, the Nature Conservancy, members of the Arkansas Native Plant Society and others will benefit from this publication.

ARKANSAS VASCULAR FLORA COMMITTEE

The Flora Committee formed on September 17, 1999 consists of representatives from the following institutions- Arkansas State University at Jonesboro (Staria Vanderpool), Arkansas Tech University (George Johnson), Harding University (Ron Doran), Henderson State University (Brett Serviss, Dan Marsh), Hendrix College (Joyce Hardin), University of Central Arkansas (Ron Culwell, Jewell Moore and Linda Gatti Clark), University of Arkansas, Fayetteville (Johnnie Gentry and Edith Hardcastle), University of Arkansas at Little Rock (James Peck), University of Arkansas at Monticello (Eric Sundell), University of Louisiana at Monroe (Dale Thomas) and private industry (Gary Tucker) and a federal (Phil Hyatt) and state agency (Theo Witsell). The initial effort is to produce a Checklist (2003)

followed by an Atlas (2005) including all taxa known to occur in the state with distribution maps. The Manual will be published in 2010. All of these publications will be valuable resources for state and federal agencies, naturalists, students of the Flora, and other individuals. The University of Arkansas Press has expressed an interest in all of these publications.

COORDINATING OFFICE

The coordinating office for the Flora project is located in the University of Arkansas Herbarium, Biomass Research Center 141, University of Arkansas, Fayetteville. Dr. Johnnie Gentry serves as coordinator of the project.

PAST CONFERENCES AND WORKSHOPS

Arkansas Vascular Flora Conference
May 18-19, 2000
Fayetteville

A Native Plant Identification Workshop for
Beginners
September 29, 2001
Various locations

A Spring Native Plant Identification Workshop
May 18, 2002
Various locations

FUTURE EVENTS

Arkansas Vascular Flora Symposium (part of
Botanical Section at Arkansas Academy of Sciences
meeting)
April 4-5, 2003
Fayetteville

A Spring Native Plant Identification Workshop
May 17, 2003
Various locations

Rare and Invasive Plants of Arkansas Conference
Scheduled October 23-24, 2003
Fayetteville
Checklist of the Vascular Plants of Arkansas will be
available at the Conference.

PROGRESS TO DATE

The preparation of a state vascular flora is perhaps the grandest scientific enterprise ever to be undertaken in The Natural State. It started in 1819, continued unabated ever since, and currently involves scientists at 16 agencies or institutions in the state. The effort has produced over 1,200 scientific publications. It will require modern bioinformatics technology to hold its catalog. After 2.5 years of volunteer effort without release time, the committee has accomplished a great deal. Of the 240,000 Arkansas specimen vouchers held in committee representative's herbaria, approximately 70% were examined with their data added to our mechanical database. We hope to finish this inventory by fall 2003. Then we have nearly 200,000 specimens located in out-of-state herbaria to inventory. We currently track over 3,200 taxa, have located another 300 based on literature backed with specimens, and are proceeding to compile a checklist. We are ensuring that the list of Arkansas vascular plants is based on modern scientific names that are recognized regionally and nationally. Field collection continues in regions of the state known to be under-collected to improve the state list and the subsequent county-dot maps in the atlas. Efforts to prepare the maps electronically are commencing now. Preliminary rough drafts of family treatments for 55 of 184 families were prepared. This is a good start to our grand scientific enterprise.



Acer negundo L.
(boxelder)

Ouachita Chapter News

by John Pelton

I seem to be attracted to certain mysteries in the natural world. Why is it that when doing an inventory you sometimes find plants only in a very small, local area? Many know I've been interested in the genus *Tradescantia* (the spiderworts). While searching for *Tradescantia virginiana* (Virginia spiderwort) in northeast Arkansas, it was found in an area approximately 40 feet by 150 feet where many plants were doing great, and have been for several years. I searched the area around this site and found another, more common species, *T. ohioensis* (Ohio spiderwort). It occurred in great abundance, but there was no other *T. virginiana* to be found. To me it would be very interesting to understand why *T. virginiana* is confined to this small area.

Another mystery was solved, but turned out to be an April Fool's joke. In April, Theo and I traveled to Prairie County to see the only site in the world for the Stern's medlar (*Mespilus canescens*). As we walked in from the south side Theo noticed a sedge he was interested in. As he parted the plants, he noticed groups of long, shiny green basal leaves among the sedges. They were unquestionably the basal leaves of an orchid. The first question is always, "What is this plant?" Well, for the sake of keeping this story in bounds, I'll say that we – Theo, Ed Hall, Dr. Slaughter, and I – decided that it was *Platanthera flava*, the southern rein orchid, and in a very large population. We went back to the site when it should've been blooming but found no blooms! The next question was, "What's going on here?" The plants seemed very strong and in excellent condition, but no blooms. Months later, we discovered the plants to be the late fall blooming *Spiranthes odorata*, the fragrant ladies' tresses orchid. The lesson learned was that in this orchid population there are two sets of leaves, and the winter set looks very much like the leaves of *Platanthera flava*. So always check out your questions – you may find another one of Nature's April Fool's jokes.

ORCHIDS: PART THREE

ANATOMY AND CLASSIFICATION

by Dr. Carl R. Slaughter, MD.

Orchids' floral parts come in threes. In addition to sepals and petals, there are three anthers and stigmas. In orchids there can be fusion or modification of these parts. In monandrous orchids there is a single fertile anther at the tip of the column. The other two are sterile, modified, or incorporated into the column. Most orchids are monandrous. Diandrous orchids have two fertile stamens located on the lateral sides of the column just behind the modified third stamen that is known as the staminode. The staminode is a shield-like structure that goes from the column's tip to above the opening of the inflated lip's orifice. The style and stigma, the female parts of the flower, are also incorporated into the column of the orchid. The style disappears, and the stigma is identified as the stigmatic process. In the genus *Cypripedium* all three stigmas fuse and function as one. In other orchids two of the stigmas are sterile. They fuse and are recognized as the rostellum. The stigma is usually posterior to the anthers, and the rostellum is usually found between the stigmatic process and the anthers. The rostellum in some orchid species is without function. In others it produces a glue-like substance that helps cement the pollinium to the body of the pollinator. In other orchids the rostellum is in the form of a sticky pad called the viscidium. The viscidium is attached to the pollinium by a stem known as a stipe. This is another way of attaching the pollinium to a pollinator. The pollinium, the stipe and the viscidium together are called the pollinarium.

The pollinium, which is on the anther, is an egg-shaped mass containing a collection of pollen grains. The pollinia are usually in pairs. Pollen grains are divided into two types. One is granular and loosely connected. The second is hard, waxy, and tightly packed. This is helpful in identification if you have a good lens.

The following is an outline of the types of reproduction for orchids, or for that matter, all vascular plants.

REPRODUCTION OF VASCULAR PLANTS

SEXUAL

- self pollination
- cleistogamy
- geitonogamy
- xenogamy

ASEXUAL

- apomixis
- apogamy

Reproduction in orchids falls under two headings, sexual and asexual. Sexual reproduction involves the union of a pollen grain with an ovum from the ovary to form a seed. Most orchids reproduce sexually. There are several types of sexual reproduction.

SELF POLLINATION is when pollen from a flower is used to fertilize its own ovary.

CLEISTOGAMY is self pollination of a closed flower. The flower never opens. This is seen in the fall coral-root (*Corallorhiza odontorhiza*).

GEITONAMY is fertilization by pollen from a neighboring flower on the same plant. A number of orchids have multiple flowers on the same stem.

XENOLOGY is fertilization by pollen from a flower located on a separate plant.

Asexual reproduction does not require the union of two gametes. One gamete, usually the ovary, produces a seed by itself or there is reproduction from a vegetative part of the flower. **APOMIXIS** is the direct production of plants by cells other than the usual ones. Some plants can reproduce from their leaves. Some reproduce from a portion of their stem. Many plants reproduce from their roots. These are examples of apomixis asexual reproduction.

APOGAMY is the development of a sporophyte from a gametophyte, ovum, without fertilization. This is not uncommon with some of our species of *Spiranthes*.

Plants can reproduce without the gamete from another plant, but the additional genetic material helps it to survive in the ages to come.

The end of part one.

Progress Report on the Invasive Plant Species Field Guide

by Jude Jardine

At the October 2002 meeting, I proposed that ANPS tap the vast store of plant knowledge held jointly by its members, and produce a document describing invasive non-native plant species in the state. The membership agreed, and after discussing the project we outlined a plan for the production process.

Formulating a list of approximately 30 species to include was the first step. Collecting available information on the selected species and producing a species entry for each one are the next steps. The last step will be printing the species entries and collecting them in a binder for distribution. The title will be *A Field Guide to Invasive Non-native Plant Species in Arkansas* and the target date for completion is May 2003.

The list of species to be initially included follows this report. It started as a distillation of the lists any plant people around the state have been keeping, and was finalized after review and comment. As in all steps of this process, your involvement is invited! If there is an invasive plant species you think we should include, let me or Theo know.

You are also invited to participate in the remaining steps. If you are interested in researching any of the species listed or in distilling the information gleaned from the research let me know by January 15, 2003. Theo and I have devised a format for the entries and I can mail you a template. Our production schedule allows 4-5 weeks to complete all entries, and you would have until the first part of February to complete the entry for any species you selected.

Around the 15th of January I will start collecting information to produce entries for any of the listed plants not already selected by one of you. When an entry has been compiled for each of the listed

species, the entire packet will be submitted for editing. When the rewriting is completed we will be ready to start printing.

The species entry format includes space for images, so if you have any photos or drawings; or know of publicly available ones for the selected species, let me know.

Because the membership decided to sell copies of the *Field Guide*, I suggest that we consider having it copyrighted.

Thanks to all of you who have and will contribute. By the time we publish, the list of credits will certainly fill a page!

Judith Jardine
206 Branch Street
Lonoke, AR 72086
jardinejk@earthlink.net

Draft List of Non-native Invasive Plant Species of Concern in Arkansas

<u>Scientific name</u>	<u>Common name</u>
<i>Ailanthus altissima</i>	tree-of-heaven
<i>Albizia julibrissin</i>	silktree, mimosa
<i>Alliaria petiolata</i>	garlic mustard
<i>Alternanthera philoxeroides</i>	alligator weed
<i>Baccharis halimifolia</i>	saltbush
<i>Bromus sterilis</i> (& <i>B. tectorum</i>)	cheatgrass
<i>Carduus nutans</i>	nodding thistle
<i>Centaurea maculosa</i>	spotted knapweed
<i>Cynodon dactylon</i>	Bermuda grass
<i>Echinochloa crusgalli</i>	barnyard grass
<i>Eichornia crassipes</i>	water hyacinth
<i>Elaeagnus</i> spp.	Russian/autumn/ thorny olive
<i>Euonymus fortunei</i>	creeping euonymus
<i>Festuca arundinacea</i>	tall fescue
<i>Hedera helix</i>	English ivy
<i>Holcus lanatus</i>	velvet grass
<i>Lespedeza cuneata</i>	sericea lespedeza
<i>Ligustrum sinense</i> (& <i>vulgare</i>)	privet
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Lonicera maackii</i>	bush honeysuckle
<i>Lythrum salicaria</i>	purple loosestrife
<i>Melia azedarach</i>	Chinaberry tree
<i>Melilotus alba</i> (& <i>officinalis</i>)	sweetclover
<i>Microstegium vimineum</i>	Japanese stiltgrass
<i>Murdannia keisak</i>	Asian spiderwort
<i>Myriophyllum spicatum</i>	Eurasian water milfoil
<i>Paulownia tomentosa</i>	princess tree

<i>Phragmites australis</i>	giant reed
<i>Poncirus trifoliata</i>	trifoliolate orange
<i>Pueraria montana</i>	kudzu
<i>Pyrus calleryana</i>	callery pear
<i>Rosa multiflora</i>	multiflora rose
<i>Salvinia molesta</i>	giant water spangles
<i>Sapium sebiferum</i>	Chinese tallowtree
<i>Sorghum halapense</i>	Johnson grass
<i>Sphenoclea zeylandica</i>	chicken spike
<i>Vinca major</i> (& <i>V. minor</i>)	periwinkle
<i>Wisteria sinense</i> (& <i>floribunda</i>)	Asian wisteria

Some Notes on *Viola villosa*

by Carl Amason

One of the childhood joys of finding wildflowers for me was to look in fencerows and edges of woodlands in sparsely vegetated areas and somewhat sunny spots and finding *Viola villosa* in bloom in the early spring. To write or talk about the blue stemless violets is risky business as most of them have been described by many names, but the southern woolly violet hasn't been described separately by the early botanists and is not easily confused with the others.

In reading the descriptive literature, one should be aware of the botanical limitations; only stems have leaves and stemless violets have blooms on peduncles and the leaves come directly from the crown where several leaves are attached. So for years, the term "stemless violets" confused me more than it helped me in the descriptions. So *Viola villosa* is one of the stemless sort and the leaves are villous, meaning they have unmatted hairs, hence the descriptive scientific name.

Viola villosa has blooms of pure purple – a mixture of blue and red. In fact, some descriptions call the color "almost red". The clumps in full sun can be almost flat and in shade the leaves can be upright with soft, unmatted hairs. The undersides of the leaves are purplish and have slight markings of the veins, but the flower is unmistakably one of a violet. Like most violets, they are difficult to cultivate and it is best to admire them in the wild and just let them be. They are usually found in

loosely populated but irregularly occurring colonies. My earliest recollections were of finding them in rail fence corners where the land was not cultivated. They were almost always in deep sandy soil where some moisture would linger during the blooming season, but was really dry the rest of the year. And like most violets growing wild, they do not really make good bouquets because the peduncles are so short and it would take quite a few to make a single nosegay, so just let them be and hopefully they can reproduce freely by seed if their habitat is not destroyed.

The end.



Viola villosa Walt.

DEAR DEER:

STAY AWAY FROM MY PLANTS!

by Don Crank

The task of keeping deer from eating the plants on 210 wooded acres in an area that has a significant deer population is a daunting one. This describes Garvan Woodland Gardens' situation. It would be a shame for the deer to munch on the 40,000 tulips when they emerge in the spring, or imagine the pansies and camelias that might be enjoyed by the deer while they sup "under the lights" during "A De-Lightful Christmas Display" which features 150,000 lights during some of November and much of December. To resolve this problem, according to Paula Wallace, ANPS member and Horticulture Supervisor for Garvan Woodland Gardens, they use **Liquid Fence**, which is mixed with water and sprayed on the plants. The treatment lasts about three weeks or until a rain of an inch or more occurs.

Native Gardening

with Mary Ann King

Theo asked that I write an article for the newsletter about a plant or plants. So for this time, I'm going to address tough plants for tough, dry places. A fairly new name that has been coined for gardening in these conditions is "Xeriscaping" (from "xeric" meaning "dry").

Clay... rocks... dry, compacted soil... My successes are *Echinacea paradoxa* (yellow coneflower)... Oh it grows in limestone country you say – well, yes it does, but it also grows in poor, dry, acid (4.5) soil in the shadow of a pine tree. *Rosa carolina* (prairie rose) thrives in full sun, clay soil showing its pink single flowers & bright red hips ... no spray, no leaf spot. *Baptisia leucantha*, *Baptisia pendula*, *Baptisia sphaerocarpa*, *Baptisia leucophaea* (a.k.a *Baptisia bracteata*), and *Baptisia minor*... all wild indigos, grow in poor dry rocky soil. No extra watering. (For the botanists out there, I know that *Baptisia leucantha* is *B. alba* v. *alba* & *Baptisia pendula* is *B. alba* v. *pendula*.) I also know that there is practically no resemblance between the two other than flower color.

To continue with tough plants, add *Tephrosia virginiana* (goat's rue), *Petalostemum purpureum* & *P. candidum* (both now in the genus *Dalea* - purple prairie clover & white prairie clover). Add *Allium cernuum* (nodding onion) & *Allium stellatum* (prairie or glade onion). Don't forget *Tradescantia ohioensis* (Ohio spiderwort) & other worthy members of that genus. Many asters, such as *Aster oblongifolius*, love dry sites. Most species of *Liatris* are suitable candidates for xeriscaping. *Pycnanthemum albescens*, *Pycnanthemum pilosum*, and *Pycnanthemum incanum* (mountain mints) all become more intensely fragrant when planted in poor soil.

There are lots more plants to mention – maybe I'll have to do a sequel to this as more tough plants keep tumbling into my mind. And I haven't even begun to mention grasses or woody plants...

Notes from the Editor

by Theo Witsell

As I write this introduction, the last leaves are falling from the big white oak in my yard and the only native blooming around here is the fall witch hazel. We had the first freeze of the year last night. I always view the coming of the first frost with mixed feelings. On one hand, it signals the end of the field season that I love so much. On the other, it means it's time to settle into the winter work. For me that means identifying and mounting the plant specimens I have collected throughout the year and sending them to various museums and herbaria. It also signals the time to compile this issue of the *Claytonia*, my first as your new editor.

For those of you I have not met, I'll briefly introduce myself. My name is Theo Witsell. I live in Little Rock with my wife Tanya. I have been interested in conservation for most of my life and in conservation of native plants specifically for about seven years. I have devoted many enjoyable hours to identifying and studying them. In 2000 I received a degree in biology (with an emphasis in botany and ecology) from the University of Arkansas at Little Rock and began my current job as the staff botanist with the Arkansas Natural Heritage Commission. I have also done botanical work for the National Park Service, both the Ozark and Ouachita National Forests, UALR, and Arkansas State Parks. I am a member of the Arkansas Vascular Flora Committee and am actively working on the Arkansas Flora Project (see article in this issue).

We are very fortunate to live in a state as biologically diverse as Arkansas. One could spend a dozen lifetimes studying our state and still learn but a fraction of what there is to know. No other state has our unique assemblages of mountains, forests, woodlands, glades, prairies, streams, swamps, and other ecosystems. I am a native Arkansan and feel a deep connection to this place. I plan on sticking around for a while, at least until the Flora of Arkansas project is completed.

At 27, I am one of the youngest members of the Arkansas Native Plant Society. I have found a wealth of knowledge in our organization and view my time spent soaking up your collective knowledge as important as any time I spent in school. I have learned so much in my hours spent on ANPS field trips and roaming around the state with members at various other times! I really appreciate the members' willingness to share their knowledge and experience. I hope to reciprocate some of it in my new position as editor.

Oh, I hope everyone enjoys the new look of the newsletter and feels that I have maintained the level of quality established during Ron Doran's term as editor.

See you in the woods,

Theo Witsell, November 29, 2002

PLEASE SEND SUBMISSIONS/SUGGESTIONS TO:

**219 Beechwood St.
Little Rock, AR 72205**

anpsclaytonia@yahoo.com

Upcoming Events

March 10, 2003

Butterfly & Host Plant Slide Show by Carl Hunter and Lori Spencer (author of upcoming *Butterflies of Arkansas* book)
Hot Springs Village (Call Carl at 501.455.1538 for more info).

April 1, 2003

Native Gardening Symposium

Ferndale 4-H Center.

For more info, contact Janet Carson at 501.671.2000 or email jcarson@uaex.edu.

May 17, 2003, 9 am - 2 pm.

Spring Plant ID Workshop

At UCA (Conway), ASU (Jonesboro), UAM (Monticello), U of A (Fayetteville)

\$10 for ANPS members, \$15 for nonmembers, \$10 for additional members of a family group. More info and a registration form will be in the Spring issue of the *Claytonia*.

October 23-24, 2003

Rare and Invasive Plants of Arkansas Conference

U of A Continuing Education Center (Fayetteville)

More info will follow in future issues of the *Claytonia*.

Arkansas Native Plant Society Membership Application

Please check the appropriate box below.

Membership Categories:

- ☐ \$10..... Student
☐ \$15..... Regular
☐ \$20..... Supporting
☐ \$25..... Family Membership
☐ \$30..... Contributing
☐ \$150... Lifetime Membership (55 and over)
☐ \$300... Lifetime Membership (under 55)
- ☐ New Member
☐ Renewal
- ☐ Address Change

NAME(S) _____

ADDRESS:

Street or Box _____

City _____

State _____ Zip Code _____

Telephone _____ - _____ - _____

Email address _____

Please cut and send this form along with any dues to:

**Eric Sundell, Membership ANPS
Division of Mathematics and Sciences
University of Arkansas at Monticello
Monticello, AR 71655**

CLAYTONIA

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Vol. 23 No. 2

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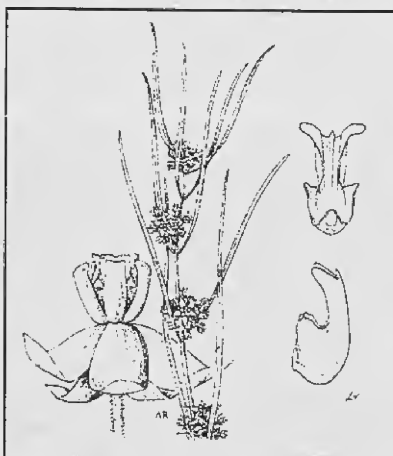
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WANTED!

ALIVE AND IN ARKANSAS



ASCLEPIAS STENOPHYLLA
A.K.A. NARROWLEAF MILKWEED

THIS ELUSIVE MILKWEED WAS LAST COLLECTED IN ARKANSAS FROM LIMESTONE GLADES NEAR TABLE ROCK RESERVOIR IN 1953. IT COULD STILL BE HIDING OUT IN THIS SORT OF HABITAT IN THE SPRINGFIELD AND SALEM PLATEAUS OF THE OZARKS.



ASCLEPIAS SULLIVANTII
A.K.A. SULLIVANT'S MILKWEED

THIS SNEAKY MILKWEED IS SUSPECTED OF INHABITING PRAIRIES, GLADES, AND PERHAPS ROADSIDES IN NW ARKANSAS. IT MAY HAVE BEEN SEEN AROUND FAYETTEVILLE AS RECENTLY AS THE 1920s, BUT HAS NOT BEEN SEEN IN ARKANSAS SINCE!

SEE ARTICLE ON PAGE 2 FOR THE FULL STORY OF THE HISTORY OF THESE RARE MILKWEEDS IN ARKANSAS...

Arkansas Milkweed Found and Lost Department

by Eric Sundell

Unless they no longer occur in Arkansas, our two rarest milkweeds are *Asclepias stenophylla* (narrowleaf milkweed) and *Asclepias sullivantii* (Sullivan's milkweed), glade and prairie species that are not too uncommon on roadsides and prairie remnants to the north and northwest of our state. In Ed Smith's *An Atlas and Annotated List of the Vascular Plants of Arkansas* (1988), the two species combined receive a total of three county dots (reports based on specimens examined by Smith) and an R (reports not based on a specimen seen by Smith).

Asclepias stenophylla is one of the narrow leafed milkweeds, closely resembling *A. longifolia* subsp. *hirtella* (tall green milkweed) in its alternate arrangement of linear leaves and its crown hoods that lack distinct, protruding horns. Smith's *Atlas* documents the species from Yell and Carroll counties and posts an R for Benton County in the northwest corner of the state. The record of *A. stenophylla* from Yell Co. is based on a misidentified specimen at the University of Arkansas herbarium at Fayetteville (UARK) collected by Dwight Moore at Mt. Nebo in October, 1924—a poor specimen with few leaves and one fruit. The whorled leaf scars and stem hairs in distinct lines are the characters not of *A. stenophylla* but of the common *A. verticillata* (whorled milkweed). So scratch one dot for *stenophylla*! The good news is that the other dot is a real McCoy. The Carroll Co. record is another Moore specimen, no. 53-242, also at UARK, an August 1953 collection. The label reads "Table Rock Dam Reservoir, Sta. 16. Juniperous - limestone glade on a gentle S-E slope, 11 miles northwest of Berryville." Whether the population still exists 50 years later at Table Rock Reservoir is not known, but Theo Witsell and I have discussed leading a search party early in July when plants should be in bloom and easier to recognize and identify.

I got excited when Theo told me of a third specimen of *A. stenophylla* listed in the Natural Heritage database, an October 1978 collection from Mill Creek in Polk Co., on file at Arkansas Tech. Alas, George Johnson took a look for me and reported that it had been annotated to *A. hirtella* (now usually treated as *A. longifolia* var.

hirtella). When I later examined the specimen myself, I agreed—the stem hairs curved up, not down, a quick hand lens character to distinguish the two very distinct taxa, especially when flowers are missing. So scratch another *stenophylla* from the Arkansas flora. I don't yet know the source of the Benton County R.

Asclepias sullivantii also has had an interesting career in Arkansas. With purple flowers and a typical hood and horn crown structure, the species can be mistaken at first sight for a clasping-leafed version of the common milkweed of the Northeast, *A. syriaca* (the milkweed). Its presence in Arkansas—one Atlas dot in Jackson Co., a Grand Prairie locality—is based on Dwight Moore's collection at UARK, clearly and unambiguously labeled Blue Springs, Jackson Co. But things got a little fishy when Randy Chlapecka, the Ag Extension Agent in Newport, informed me that, despite a Blue Creek, there was no Blue Springs in Jackson Co. And when I examined another Moore specimen of *A. sullivantii*, from Bates Co., Missouri, that was collected on the very same day as his Jackson Co., Arkansas specimen, the third law of florodynamics flashed in my mind ("Even the most ardent plant collector cannot collect two plants in two different states at the same time."), sending me to my Rand McNally Road Atlas. There I found the city of Blue Springs, Missouri, population 45,000, a suburb of Kansas City, in... Jackson Co! Dwight Moore's herbarium labels were preprinted at the top "Plants of Arkansas." Typically, for out of state material, he scratched through "Arkansas" and handwrote the correct state above it. When he forgot to do this for the Blue Springs specimen, *Asclepias sullivantii* became a rare, elusive, and intriguing element in the Arkansas flora. Now the species' presence in Arkansas appeared to be only an artifact.

Except that while hunting for more information on the Blue Springs specimen, I had learned from Johnnie Gentry that Dwight Moore kept a catalog of the Arkansas flora on 4x6 inch cards in the UARK herbarium. Under *Asclepias sullivantii* Johnnie found the following tantalizing entry: "Buchholz 20145-6. June 13, 1923. Washington Co." The locality—northwest Arkansas—made sense; it was not far from known populations of the species in southeast Oklahoma. But the specimen was missing, not to be found at UARK nor at the University of Illinois, where the majority of Buchholz specimens are deposited. The species is listed in Buchholz and Palmer's 1926 "Supplement to the Catalogue of Arkansas Plants" as occurring in Fayetteville. It's also listed by Delzie Demaree in his 1943 checklist, "A Catalogue of the Vascular Plants of Arkansas," but with the annotation, "Doubtful."

So there you have it: everything you always wanted to know about the in-state occurrence of Arkansas' two rarest milkweeds! If you're in north Arkansas in June or July, be on the lookout and report all suspicious *Asclepias* to the nearest authorities: Theo Witsell and Eric Sundell.

The Yellow-Fringed Orchid Complex

by Carl Slaughter

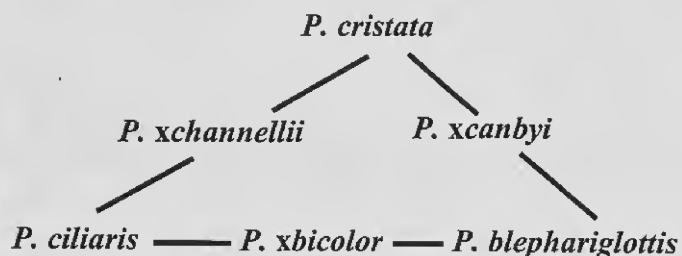
A hybrid is the offspring of the union of one species, variety, genus, etc. with that of a different species, variety, etc. Many orchids hybridize, as is evidenced by the numerous hybrids that are found in the commercial orchid growing business. A number of our native orchids hybridize and most of these have been given names. Scientifically, hybrids are identified by the placing of the small letter "x" in front of the specific name. For example, *Platanthera x bicolor* is the hybrid between *Platanthera ciliaris* and *Platanthera blephariglottis*.

One group of orchids that has received a great deal of attention in the last ten years is a group of *Platantheras* known collectively as the yellow-fringed orchid complex. This is sort of a misnomer in that one of its members is entirely white (*P. blephariglottis*) and another member's "yellow fringed" lip is white (*P. xibicolor*). Another member's (*P. cristata*) lip is crested rather than fringed. Despite all of this, everyone knows what you are talking about when you refer to the yellow-fringed orchid complex.



Platanthera cristata (Michx.) Lindley—
(yellow-crested orchid)

The following diagram is how these orchids and their hybrids are usually depicted:



The name of the hybrid is between its two parents in the diagram. Two other associated *Platantheras*, although they are not listed within the triangular diagram, are *P. chapmanii* and the monkey orchid, *P. integrilabia*. The last is white, and the *P. chapmanii* is orange. For years it was believed that *P. chapmanii* was the hybrid of the cross between *P. cristata* and *P. ciliaris*. Folsom disproved this by showing that the *P. chapmanii* seeds produced pure *P. chapmanii*, and that the Chapman orchid was found growing in isolated stands rather than with its assumed parents. There are also different pollinators.

P. xibicolor is identified by having a creamy-yellow or pale orange flower with a white lip. *P. xcanbyi* and *P. xchannellii*, a name coined by Folsom for the true hybrid of *P. ciliaris* and *P. cristata* are almost identical. The only difference is that the *P. xcanbyi* is paler and it grows alongside its parents, *P. blepharioglottis* and *P. cristata*. The *P. xchannellii* is found growing with its parents. There are no *P. chapmanii* known in Arkansas. In the past those Arkansas orchids identified as *P. chapmanii* were not *P. chapmanii* but *P. xchannellii*.

The identification of the yellow members of this complex can be difficult. The following might be of help to you in distinguishing between them:

If the spur is equal or greater than the ovarian-pedicle length (20-35 mm) it is *P. ciliaris*.

If the spur is very short (4-10 mm) it is *P. Cristata*.

If the spur is about one half the ovarian-pedicle length (8-17 mm), the flower is creamy yellow, and the column does not bend downward at its apex, it is *P. xcanbyi*.

If the spur is about one half the ovarian-pedicle length (8-17 mm), the flower is an orange color, and the column does not bend downward at its apex, it is *P. xchannellii*.

If the spur is about one half the ovarian-pedicle length (8-17 mm) and the column bends downward at its apex, it is *P. chapmanii*.

As you can tell, spur length and whether or not the apex of the column is bent downward are important criteria in identifying these *Platantheras*.

In Arkansas you will find *P. ciliaris*, *P. cristata*, and *P. xchannellii*. If you find any of the others, ANYWHERE, please call me. Have camera, will travel.

Dr. R. Dale Thomas Retires

by Theo Witsell



Distinguished professor and field botanist Dr. R. Dale Thomas is retiring from the University of Louisiana at Monroe (formerly Northeast Louisiana University) on June 30th, after 37 years of service to that institution. He and his wife Barbara will be moving back to their native east Tennessee.

Dr. Thomas is one of the most important plant collectors in the history of botany, having collected over 173,000

numbers (a number being a particular plant from a particular site), and more than half a million specimens counting duplicates. This is more than any other collector in history. He has traded these specimens to more than 200 herbaria all over the world, building an international reputation for himself, and for the University of Louisiana at Monroe. He personally built the NLU herbarium from just 250 mounted specimens when he arrived in 1966, to more than 400,000 specimens today. The NLU herbarium now ranks among the top 30 U.S. herbaria.

Dr. Thomas is also an outstanding teacher, having led more than 37 graduate students through MS thesis projects, including 27 surveys of plants of Louisiana parishes and several surveys of Arkansas counties. He has developed and taught field courses in the southern Appalachians and is active in the annual Wildflower Pilgrimage at the Great Smoky Mountains National Park.

He is an active member of the Louisiana and Arkansas Native Plant Societies.

Though I did not have the opportunity to study with Dr. Thomas formally, I did learn a lot from him by studying many of his specimens at UARK, and by spending a day in the field with him in Saline County last May. He taught me many species that day but one moment particularly sticks out in my mind. We were collecting plants at the foot of a steep hillside at the Narrows, a narrow ridge separating the Middle Fork and Alum Fork of the Saline River. We were looking at some plant growing on a rock outcrop and Dr. Thomas casually pointed toward a hairy, herbaceous vine with heart-shaped leaves growing on the ground between us. "Reach down and grab me a piece of that vine, will you?", he said. This was his way of quizzing me to see if I knew this plant, for it was *Tragia cordata*, the heart-leaved stinging nettle or vine noseburn. I smiled and replied that I had gotten my share of that species earlier, alluding to the painful sting that awaits anyone who grabs it barehanded. He smiled, content that I had already learned that one the hard way, as he himself probably did decades earlier.

Dr. Thomas has done extensive research on the genus *Ophioglossum* (the Adder's tongue ferns), having published several articles on the genus. He is now recognized for having collected more specimens of the genus than everyone else in the world combined. His tireless work in both the field and the herbarium have been extremely valuable to our knowledge of the Arkansas flora. He has added countless state records to Arkansas, helping our knowledge grow from the approximately 2,600 taxa listed in Dr. Ed Smith's *Atlas and Annotated List of the Vascular Plants of Arkansas* (1988) to the more than 3,300 taxa now known from the state.

Many ANPS members have gotten to know Dr. Thomas through his involvement in the Arkansas and Louisiana Native Plant Societies. He sent the following letter asking that it be published in the *Claytonia*:

After teaching for 37 years at University of Louisiana at Monroe (formerly Northeast Louisiana University), I am retiring and will be moving to Sevier County, Tennessee. My wife and I should be settled in by September and would welcome visits from anyone in the Society visiting us. We will be about 15 minutes by backroads from the Outlet Malls in Pigeon Forge. This would be a place to stay and see the spring wildflowers or the fall colors. I have thoroughly enjoyed the many meetings and fieldtrips I have participated in with the ANPS.

Dale Thomas

Some Uncommon Composites

By John Pelton, Ouachita Chapter President

Last Saturday morning, February 15, I decided to take a tour of some Saline County sites for harbinger of spring (*Erigenia bulbosa*) and see if they were up this early. Some plants were up and budded, but hadn't fully opened, the weather being cloudy and very cool. On the drive I met one of our really old timers. When I inquired of his well-being we got into a discussion of our age, and he said, "You are just a youngster." Well, thank you, sir!

I said all that just to say that I am old enough to reflect on the recent past. I am fortunate to have such knowledgeable friends and guides as Ed Hall, Bob Clearwater, Theo Witsell, and Frances, who always has Carl Hunter's *Wildflowers of Arkansas* by her side.

As many of you know, in recent years I have focused on the genus *Tradescantia* and the genus *Sabatia*, so I sort of bypassed other abundant plant families such as the composites (family *Asteraceae* or *Compositae*). So what new composites have we seen on our photo trips recently?

Coreopsis palmata (stiff tickseed) – on mountain glades in the Ozarks

Rudbeckia subtomentosa (sweet coneflower) – along creek banks in the Ouachitas

Ratibida pinnata (grayhead coneflower) – on seasonally wet glades and ditch banks in the Ouachitas (Saline Co.)

Vernonia lettermannii (Letterman's ironweed) – among the rockbeds of the Cossatot River in the Ouachitas

Thelesperma trifidum (greenthread) – shale glades in the Ouachitas

Solidago auriculata (eared goldenrod) – on creek overflow areas, Ouachitas

Liatris squarrulosa (blazing star) – Ouachita Mountains, mostly

Helianthus occidentalis subsp. *plantagineus* (plantain-leaf sunflower) – gravel bars on the South Fork of the Fourche LaFave River

Helianthus grossiserratus (giant sawtooth sunflower) – Wow! A real giant! Eastern Arkansas on the Grand Prairie terrace.

Aster oblongifolius (sticky aster) – sandstone outcrops and shale glades in the Ouachitas

Bidens laevis (smooth marigold) – growing in floating mats in shallow water around old oxbow lakes along the Arkansas River

Cheers to you who are old enough to have memories of fieldtrips past and are young enough to look forward to fieldtrips in the future. I sort of know now why many take notes on each trip.

Happy memories,
John Pelton
Ouachita Chapter

ANPS Scholarship Awardee Earns Degree & Publishes Research

Janene Lichtenberg, who was awarded a scholarship by ANPS to help fund her Master's thesis research, sent the following letter to George Johnson, Chair of the Awards & Scholarships Committee:

I wish to express my thanks to the Arkansas Native Plant Society for awarding me with a scholarship to help fund my Master's thesis research at the University of Arkansas – Fayetteville. I completed my M.S. degree in 1999 and am now employed as a tribal wildlife biologist in Montana. The project funded by the Arkansas Native Plant Society was recently published in American Midland Naturalist. Enclosed is a reprint.

Thank you,

Janene Lichtenberg, Wildlife Biologist
Confederated Salish and Kootenai Tribes
Wildlife Management Program
P.O. Box 278 / Pablo, MT 59855

Her paper is entitled *Weak Trophic Interactions Among Birds, Insects and White Oak Saplings* and can be found in *American Midland Naturalist* 148:338-349. Research was conducted at Bear Hollow Natural Area within the Madison County Wildlife Management Area, Madison Co., Arkansas.

Arkansas Academy of Science Arkansas Flora Symposium

by Johnnie Gentry

At this year's annual meeting of the Arkansas Academy of Science (April 4-5 in Fayetteville, AR), there will be a special symposium of research presented on Arkansas' flora and related plant topics. At least 17 papers will be presented by researchers from around the state. Papers submitted as of March 1 are listed below:

1) Waifs, Weeds, and Invasives: A Review of Arkansas' Non-indigenous Vascular Flora--
Johnnie L. Gentry, James H. Peck, and Sarah Nunn

2) History of Arkansas Botany: Role of the University of Arkansas--Gary Tucker

3) Arkansas Vascular Flora: Additions, Re-instatements, Exclusions, and Re-exclusions--
James H. Peck

4) How to Study the Arkansas Flora: A 22 Year Study of Pteridophytes--James H. Peck.

5) Arkansas' Orchids: The State of the State--
George P. Johnson

6) Conservation Genetics of *Delphinium newtonianum* (Ranunculaceae)--Edith L. Hardcastle

7) Molecular Systematics of *Quercus acerifolia*: Is Maple-leaf Oak Really a Species?--David X Williams

8) On the Rare Endemic *Hydrophyllum brownei* Kral & Bates (Browne's Waterleaf)--Travis Marsico

9) A Preliminary Survey of the Vascular Flora of Yell County, Arkansas--Brent Baker

10) Occurrence and Status of *Hydrilla verticillata* (L.F.) Royale (*Hydrocharitaceae*) in Arkansas--
Michelle Baker and Brett Serviss

11) A New Species of *Sabatia* (*Gentianiaceae*) from Central Arkansas--James S. Pringle and Theo Witsell

12) Additions and Noteworthy Collections for the Flora of Arkansas--Theo Witsell

13) Identification and Ecology of Naturalized Species of *Narcissus* (*Liliaceae*) in Arkansas--
Thomas D. Slaughter, Jason Wilis, and Brett E. Serviss

14) Plants New to the State of Arkansas--Staria Vanderpool

15) An Inventory of Woody and Spring Forest Ephemerals in the Proposed Lake Bono, Craighead County--Staria Vanderpool, J.D. Wilhide, Lynn E. Alterman, Steven C. Fowler, Jeremy L. Jackson, Tammy R. Jones, William D. Reed, James R. Samples, Lann M. Wilf, Adam S. Chappell, Ronald E. Cossey, Marcelle L. Daggett, James W. Gore, Michael A. Reed, Mary C. Scott, and Joshua H. Seagraves

16) Relationships of Bottomland Hardwood Forest Communities to Flooding along the White River near Clarendon, Arkansas--Thomas L. Foti and Joe B. Pagan

17) A Comprehensive Floristic Inventory and Distribution Model of Unique Wetland Communities on Terraces Along the Ouachita River in Southern Arkansas--Joe B. Pagan and Thomas L. Foti

Papers 1-12 will be presented Friday, 1:30-4:30 pm.; papers 13-17 on Saturday, 8:00-11:00. The order/time of individual papers will be determined.

The Academy meeting is free and open to the public. More information and directions can be found at <http://www.uark.edu/depts/gradinfo/aas/AAS.htm> or by calling the U of A at (479) 575-5555.

Arkansas' Newest Orchid: *Spiranthes lacera* var. *lacera*, the Northern Slender Ladies'-Tresses

by George Johnson



The last piece of mail that I received before I left my office for the Christmas holidays was the latest volume of the *Flora of North America* series, Volume 26, which included the *Orchidaceae*. I had been waiting for months for its publication. As I scanned the pages, I noticed something that looked out of place. In the distribution map for *Spiranthes lacera* var. *lacera*, the Northern Slender Ladies'-Tresses, northeastern Arkansas was shaded. I was a little surprised as I am preparing the treatment of the orchid family for the Vascular Flora of Arkansas Project and I didn't remember seeing any specimens of this variety in the 1000+ specimens I had examined so far, nor did I remember seeing this taxon on any previous lists for the state. For *FNA* to include a taxon for a state, the author(s) of that taxon's treatment must have seen a specimen of that plant from that state. The hunt was on.

The first thing that I did was to visit the website for the Missouri Botanical Garden (www.mobot.org) and search the Tropicos database for Arkansas' specimens of *Spiranthes lacera* var. *lacera*.

A hit was returned for a specimen collected by E. J. Palmer in 1923 on

Spiranthes lacera var. *lacera*—note the widely-spaced flowers.

Mt. Magazine in Logan County; the specimen resided in the herbarium of the University of Missouri-Columbia (UMO). I contacted the curator who kindly scanned the specimen and sent me the image files. There was no doubt, it was *Spiranthes lacera* var. *lacera*, something new for the State's checklist. I then re-examined the collections of *Spiranthes* in the herbarium at Arkansas Tech, my institution. All of our collections of *Spiranthes lacera* were clearly var. *gracilis*. Fortunately for me, I still had the orchid specimens from the University of Louisiana at Monroe (NLU) on loan, and I re-examined them. Among the specimens of *Spiranthes lacera* was a specimen of var. *lacera* from Union County that I had previously overlooked and called var. *gracilis*. We now had this new variety from two counties. Queries to the curators of the other herbaria in the state turned up an additional specimen from Jefferson County and one from Drew County. The presence of *Spiranthes lacera* var. *lacera* was now firmly established for the state of Arkansas.

Identification of the two varieties of the Slender Ladies'-Tresses is rather easy, even with the naked eye. The Southern variant, var. *gracilis*, has flowers densely crowded within the inflorescence, whereas the Northern variant, var. *lacera*, has flowers well-spaced within the inflorescence. Additionally, var. *gracilis* has few to no trichomes on the axis of the inflorescence, whereas var. *lacera* is rather densely pubescent. A nice drawing of the differences between these two varieties of the Slender Ladies'-Tresses can be found in Volume 1 of the new edition of Steyermark's *Flora of Missouri*. See Plate 117, i & j, page 571, for drawings of vars. *lacera* and *gracilis*, respectively.

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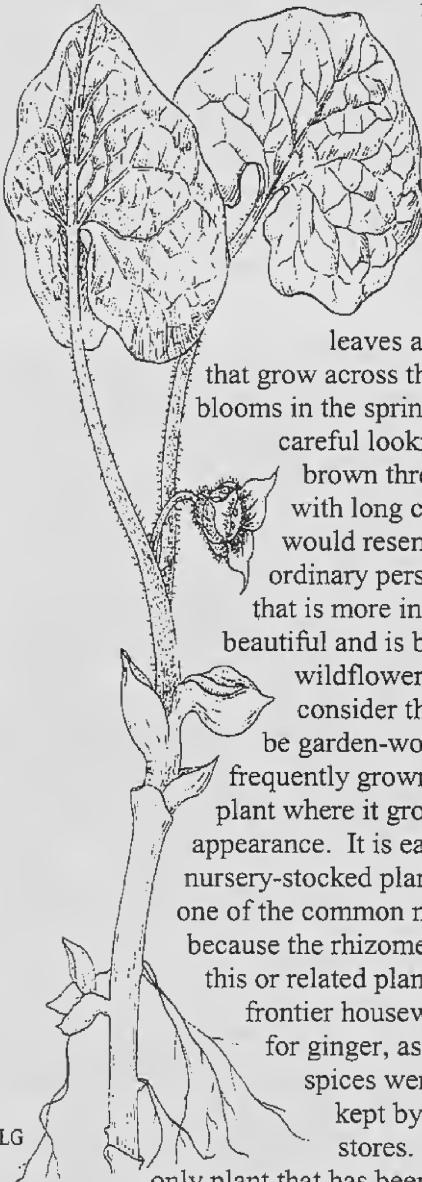
Spiranthes lacera var. *gracilis*—
note the closely-spaced flowers.

Some Notes on *Asarum canadense*

by Carl Amason

Of all the plants of the genus *Asarum* in eastern North America, a delightful group known generally as "wild ginger", apparently there is only one that is native to Arkansas. It is quite common in the mountainous areas and on Crowley's Ridge, but is not found in the western Coastal Plain, the Grand Prairie, or the Delta growing as a wild native but will grow where planted.

Unlike most of the *Asarums*, it is distinct because it is not evergreen but is deciduous and is found in rocky woodlands with leaves that emerge in spring and grow from two to six inches across. These leaves arise from rhizomes that grow across the soil. It also blooms in the spring but it takes some careful looking to see the brown three-parted flower with long calyx segments that would resemble petals to the ordinary person. This is a plant that is more interesting than beautiful and is beloved by wildflower enthusiasts who consider this unusual plant to be garden-worthy. It is most frequently grown as a rock garden plant where it grows to its best in appearance. It is easily grown from nursery-stocked plants. Wild ginger is one of the common names for this plant because the rhizome or some part of this or related plants was used by frontier housewives as a substitute for ginger, as in these days spices were not commonly kept by general grocery stores. And this is not the only plant that has been used for a spice or for medicinal purposes.



In summer when no flowers are present, the clumps are easily told from other wildflowers as the leaves are each distinctly arising from the rhizome and are on petioles about four to six inches tall, solid pubescent green without any mottling or variegation. Eventually clumps can grow to be two feet across, and furthermore they prosper in dry, rocky soils, not in damp or wet soils, where they get little water except rain and little sun in the shade. Once a person has become adjusted to the appearance, the plants are easily discovered, identified and enjoyed. It is what would be described as a natural rock garden plant.

The end.

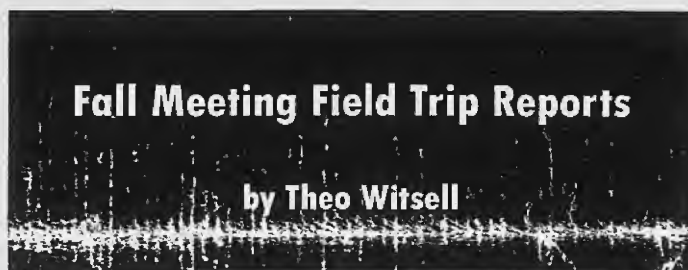
Ferns

by George Sinclair

Ferns are among the oldest known plants. Fossil remains in rocks and coal record their past and indicate their vastness and grandeur. In their native woodland haunts, they gain the awe and admiration of the nature lover: Foliage of varying shades of green, soft and plume-like or coarse and rugged, makes ferns delightful additions to any collection of plants. In medieval times, mysticism, fear, and superstition surrounded the ferns. People "knew" that without flowers ferns could have no seeds; they questioned how such plants could reproduce. As knowledge increased, man discovered that the seedless ferns were the most prolific "seed" producers of all plants. Unlike flowering plants with a few seed pods, the ferns shed their dust-like reproductive organs (spores) by the millions. The spores still seemed supernatural with powers to cast spells of good and evil.

The fern plant; thumb-size or tree-high, is known as a sporophyte or spore-bearing plant, and has three general parts; the leaf; the rhizome (modified stem), and the roots. The fern has adapted to almost all environmental conditions. Some have become terrestrial, at home in woods and fields, swamps and marshes, mountains and cliffs. Others epiphytic, making their home in trees. Aquatic, living in lakes and ponds. Ferns are found growing from the tropics to the Arctic Circle.

Although spores come from ferns, fern leaves do not come directly from spores. Flowering plants grow from seeds, which at one time are single cells. Twice in the life of a fern it exists as a single cell. Spores from the parent plant fall to the ground. With moisture and light, these tiny single-cell organisms, divide into orderly arrangements of cells to become little green heart-shaped plants (prothallia), so small that not only was medieval man unaware of them, but most people today have never seen these marvelous plants. As these tiny green plants mature, rhizoids reach down to supply nourishment and moisture. Near the cleft of the heart-shape, the male organs (antheridia) are formed; the female organs (archegonia) form near the bottom of the plant. A drop of moisture carries the sperm from the male organs, to the female organs, to fertilize the egg cell. The egg cell then divides to form a new fern (sporophyte) - a young plant that looks nothing like the mature fern that it becomes at maturity. This in general is the life cycle of a fern.



I had hoped to include these in the last issue but ran out of room. Now, with more pages to work with, I thought they would still be of interest. The two field trips I went on are outlined below. Another trip went to Baker Prairie Natural Area in Harrison, but I was only able to go along for a few minutes so I can't really report on that one. If nothing else, this will give people who did not attend an idea of these sites.

LOST VALLEY

Saturday October 12, 2002 saw a wonderful field trip to Lost Valley in the Buffalo National River. We hiked down the trail that follows Clark Creek, which cut the dramatic canyon. We saw a number of late-blooming composites including wild goldenglow (*Rudbeckia laciniata*), bear's foot (*Smallanthus* or *Polymnia uvedalia*), and a number of species of *Aster*.

As we followed the trail up the hollow, someone pointed out the striped leaves of the Adam-and-Eve orchid (*Aplectrum hyemale*). The leaves were just emerging and will spend the winter and early spring sending energy to the roots. One clump had a single stalk with this year's fruit remaining. Not far from the orchids was another strange plant, the Indian pipe (*Monotropa uniflora*). Some of these were an eerie translucent white while others were a pale pinkish color. Indian pipe is a saprophyte, a plant that has no chlorophyll but gets its energy from decaying organic matter in the soil. A group of hik-

ers in my group bent down to sniff the flowers and noticed the unique scent of the Indian pipe.

Not far from the Indian pipe we came upon another non-photosynthetic plant; beech drops (*Epifagus virginiana*). These were a golden orange color and were clustered around the roots of the American beech (*Fagus grandifolia*), on which they are parasitic. The question arose as to whether there was a symbiotic, or mutually beneficial, relationship between the beech tree and the beech drops.

As we hiked up the trail the valley became more and more rugged with house-sized boulders known as the "jigsaw blocks" littering the canyon floor. These large, square rocks get their name from the fact that when you look above them at the canyon wall you can see where they fit into the wall long ago, before the freezing and thawing of water, in cracks in the rock, broke the large boulders free. On one of these rocks, someone pointed out the succulent leaves of the wood stonecrop (*Sedum ternatum*). We also saw the first plants of what turned out to be a nice population of the Arkansas alumroot (*Heuchera villosa* var. *arkansana*) - a rare plant known only from the mountains of Arkansas. It was in full bloom, its orange stamens protruding from its white flowers.

Fall color was beginning to show, with the brilliant red of the black gum (*Nyssa sylvatica*) becoming noticeable on the hill-sides.

The rugged topography of the canyon provides microhabitats for a number of uncommon plant species. On the steep rocky walls and in the dripline of rock overhangs was a small population of the tassel flower (*Brickellia grandiflora*). This species, looking similar to another plant that grew nearby called white snakeroot (*Eupatorium rugosum*), is rare in Arkansas, known from only a handful of sites according to the Arkansas Natural Heritage Database. It differs from *Eupatorium* by having larger, cream-colored flowers, and triangular leaves with a flat base and long petioles.

Not far upstream from the tassel flower was a large bluff on the east side of the canyon. It stands more than 200 feet above the creek, which sculpted it long ago. At the base of this bluff is a large overhanging bluff shelter, 50 feet tall, 100 feet deep, and more than 200 feet long. It was here that I made the most interesting discovery (for me) of the trip. I was searching the dripline for more tassel flower when I noticed a small, dried out corncob lying on the dust of the bluff shelter. I picked it up and looked at it a while before I realized the significance of it. There, in my hand, was an actual artifact from the early domestication of plants by native North Americans. The cob was about 2.5 inches long and 1/2 of an inch in diameter.

When I got home I did some research (see Kenneth Smith's book *Buffalo River Country*) and found that this bluff shelter is famous for its Native American artifacts and even got its name, "Cob Cave", because of the many small corn cobs found by early visitors to the cave. Archaeological studies have uncovered gourds and sunflower seeds as well as bits of pottery and woven baskets. Unfortunately the cave was plun-

dered by treasure seekers in the past and only a few corn cobs and other relics remain.

Lost Valley is well-known for its rich spring flora and I want to encourage everyone to make a trip in the spring to see the rich displays of native wildflowers.

LEAD HILL GLADE

led by Linda Ellis

About a dozen ANPS members stuck around until Sunday morning and made the short trip up to Lead Hill to see a fine example of an Ozark Mountain limestone glade community. The privately-owned site actually has a dry tallgrass prairie that transitions into a complex of limestone glades and woodlands. A number of rare plant species were seen including Elliott's sida (*Sida elliotii*) in flower and the evening rain lily (*Cooperia drummondii*) in fruit. There were a number of our beautiful warm-season native prairie grasses at the site including little bluestem (*Schizachyrium scoparium*), splitbeard bluestem (*Andropogon ternarius*), side oats grama (*Bouteloua curtipendula*), and three species of native dropseed (*Sporobolus* spp.). Though too late to see the peak of their show, we saw plants of the glade blazing star (*Liatris mucronata*), yellow coneflower (*Echinacea paradoxa*), and the Missouri black-eyed Susan (*Rudbeckia missouriensis*). The fall ladies' tresses orchid (*Spiranthes cernua*), and the sticky aster (*Aster oblongifolius*) were still in bloom, along with several other species of *Aster*.

The find of the day was when Linda Ellis pointed out several clumps of a goldenrod to the group. She correctly identified it as Gattinger's goldenrod (*Solidago gattingeri*) – a new record for the state of Arkansas! Dr. Sundell and I made vouchers for the Arkansas Flora Project. Linda also described the spring flora of the site, which sounds spectacular. She is leading two trips to the glade this spring! (see page 14)

There were plans to go to Carrollton Glade as well, but we found so much to see at Lead Hill that we stayed there all morning before splitting up to head home.



Solidago gattingeri

Res # 13372

ANPS 2003 Spring Meeting

DeGray Lake Resort & State Park

Meeting Date: 25-27 April, 2003

Meeting Place: DeGray Lake Resort State Park & Convention Center

Room cost will be \$75.00 Single/Double occupancy (\$10.00 extra for each additional person). Due to the cost, only 15 rooms have been reserved. Others are reserved in town (see below). Check-in time at DeGray is 4:00 PM and check-out is 11:00 AM. The rooms will be held until March 26, 2003. Individuals are responsible for their own reservations.

We are not allowed to bring any food or drink into the meeting room. Refreshments will be furnished.

Other motels in the area:

Best Western Continental Inn
HWY 67N & I-30 (Exit 78 off of I-30)
Arkadelphia
870-246-5592

30 rooms are being held for us at the Best Western. We have a discounted rate of \$50.99 single/double occupancy. Includes continental breakfast. Give the group confirmation number (168-828) and group name (Arkansas Native Plant Society) when making reservations. This is just minutes from Lake DeGray.

Holiday Inn Express
150 Valley
Caddo Valley
870-230-1506
Room rate: \$58.50

Super 8 Motel
118 Valley
Arkadelphia
870-246-8585
Room cost: apprx. \$60.00

Econo Lodge 106
Crystal Palace Dr.
Arkadelphia
870-246-8026
Room rate: \$40.00

Comfort Inn
100 Crystal Palace
Caddo Valley
870-246-3800
Room cost: \$76.99
(includes continental breakfast)

CALL LINDA GATTI-CLARK AT 501.796.4104
FOR MORE INFORMATION

THE ARKANSAS VASCULAR FLORA PROJECT PRESENTS

Native Trees, Shrubs, & Vines Identification Workshop

Join members of the Arkansas Vascular Flora Committee for a half-day workshop highlighting some of the tools and techniques used by botanists to identify plants. We will bring in local plants and identify them using technical keys and manuals. **Focus will be on native species of woody plants.**

Learn

- How plants are named
- To decipher technical terms
- To identify families of plants
- Ethical collection techniques
- To use keys and a hand-lens
- How to press plants for posterity
- And more...

Locations

Fayetteville (U of A Herbarium)

contact: Dr. Johnnie Gentry

U of A Herbarium / Biomass Research
Center 139 / Fayetteville, AR 72701
501-575-4372
gentry@comp.uark.edu

Jonesboro (Arkansas State University)

contact: Dr. Staria Vanderpool

Dept. of Biological Sciences / ASU /
P.O. Box 599 / Jonesboro, AR 72467
870-972-3082
svand@navajo.astate.edu

Monticello (U of A Monticello)

contact: Dr. Eric Sundell

School of Mathematics and Natural Sciences /
U of A Monticello / Monticello, AR 71656
870-460-1165
sundell@uamont.edu

Conway (University of Central Arkansas)

contact: Dr. Don Culwell

Dept. of Biology / University of Central
Arkansas / Conway, Arkansas 72035
501-450-5919
donc@mail.uca.edu

Directions and room numbers for each workshop will be provided upon receipt of registration form.

Registration

Space is limited so please pre-register by May 5, 2003 by sending the form on the back of this page to the location nearest you. Registration after May 5 will be on a first-come, first-serve basis until all slots are filled.

Date and Time

All workshops will be held Saturday, May 17, 2003 from 9:00 AM to 2:00 PM.

Cost

Cost for Arkansas Native Plant Society Members will be \$10 per person. Cost for non-ANPS members will be \$15 for the first family member and \$10 for each additional family member. Proceeds will benefit the Arkansas Vascular Flora Project. Make all checks payable to the "University of Arkansas" and please specify "Arkansas Flora Project" on the memo line.

Please bring your own lunch. Technical keys, hand lenses, microscopes, and plant specimens will be provided.

SEE OTHER SIDE FOR REGISTRATION FORM

What is the Arkansas Vascular Flora Project?

The Arkansas Vascular Flora Project is the first attempt to create a comprehensive, book-length treatise on the vascular plants of Arkansas. The end result will be a fully-illustrated manual with technical keys, species descriptions, distribution maps, and line-drawings of all of the approximately 3,300 plants that are known to occur in Arkansas.

This project is being coordinated by the Arkansas Vascular Flora Committee (a committee of professional academic and field

botanists) but relies heavily on the collections and assistance of amateur botanists. Active participation of skilled amateur botanists is essential to expanding our knowledge of the Flora of Arkansas.

The current projection is for the release of an updated *Checklist of the Vascular Plants of Arkansas* in 2003, an updated *Atlas of the Vascular Plants of Arkansas* in 2005 and the complete *Manual of the Vascular Flora of Arkansas* in 2010

Clip here and mail to the location you plan to attend (addresses on previous page)

Registration Form

Name(s): _____

Address: _____

Home Phone: _____

Work Phone: _____

Email: _____

Amount Enclosed: _____

Cost for Arkansas Native Plant Society Members will be \$10 per person. Cost for non-ANPS members will be \$15 for the first family member and \$10 for each additional family member. Proceeds will benefit the Arkansas Vascular Flora Project. Make checks payable to the "University of Arkansas" and please specify "Arkansas Flora Project" on the memo line.

Note: This program is designed for ages 16 and up.

PLEASE MAIL REGISTRATION FORM NO LATER
THAN MAY 5, 2003 TO THE SITE WHERE YOU
PLAN TO ATTEND THE WORKSHOP.
THANK YOU.

Notes from the Editor

by Theo Witsell

When I returned home from work this afternoon, I got out of my truck and walked through the yard admiring the showy display of spring beauties (*Claytonia virginica*) blooming all over the slopes above the sidewalk. Just last week there were 6 inches of snow there and now a wonderful display of native wildflowers. Spring is here! These spring beauties were not planted there. They are just there, perhaps remnants of the open woodland that once existed where my neighborhood now stands.

There are other white flowers blooming there too – the hairy bittercress (*Cardamine hirsuta*), and the common chickweed (*Stellaria media*). The pinks and purples of the deadnettle (*Lamium purpureum*) and henbit (*Lamium amplexicaule*) are putting on a show too, as are the striped blue and white corn speedwell (*Veronica arvensis*) and the aptly named bluets (*Houstonia pusilla*). These are weeds to the gardener, several imported from Europe and blooming before almost all of the natives, but surely they are appreciated by the insects that have little else to pollinate this time of year. I also noticed a handsome diversity of little grasses – the annual bluegrass (*Poa annua*) is already flowering and the nearly-dead nimblewill (*Muhlenbergia schreberi*) still has a few seeds clinging to it from the fall. These have arrived on their own, not planted with the St. Augustine grass and Bermuda put in by the previous owners.

As I reached the mailbox at the foot of the stairs I noticed a big, slick, full-color folder hanging from the mailbox. It was from ChemLawnsm Company and included my own personal (and completely unsolicited) complimentary yard assessment and prescription! Prominent on the enclosed form was a list of problems noted in my yard. Hmmm... how nice of them. I opened the folder. You can imagine my dismay when I saw several of the species I was admiring just seconds earlier listed under the heading “problems noted”. In fact, after reading the entire evaluation, it became apparent that anything that wasn’t turfgrass was considered a problem or potential problem.

The solution, according to the brochure, was a subscription to their ChemLawnsm treatment services. For “only \$39.95 per treatment” I can get my entire yard treated with fertilizer and herbicide to get rid of all those pesky weeds. The fine print at the bottom says that treatments are recommended every 4 to 6 weeks.

I showed my wife Tanya our evaluation over dinner and she laughed. “They will love it when we’re finished”!, she said. We are in the process of landscaping with native species. More than 100 of them. We are tearing up the sod, terracing with native stone and planting in the natives. I can see their “evaluation” now. ‘Potential problems: big bluestem, little bluestem, Indian grass, switchgrass, prairie gayfeather, Arkansas alumroot, Ouachita bluestar, butterfly milkweed...” Ha!

We all have our own opinion of what we consider attractive and we all have own philosophy for yard care. I want diversity in my yard. I want a steady succession of wildflowers and grasses with all their attendant insects and birds. I want to watch these species through the years so that my knowledge grows along with them. Somewhere along the way, gardening and lawn care have developed a purist philosophy that, when put into practice, has amounted to a *war against the indigenous and war against the wild*. I see this as an extension of the human-centered philosophy that has caused the destruction of so much native biodiversity the world over. The remedy, as I see it, lies in the raising of our collective consciousness. In the end this will come down to the individual person (and, by extension, to their lawn or garden).

If you live in town, like I do, chances are that most of the original botanical residents have been wiped out. In my neighborhood we are fortunate to have a remnant of the original landscape (Allsopp Park) to study and piece together the puzzle of what was there originally. On our walks in the park, Tanya and I have seen a variety of natives that are appropriate for our yard. The process is proving to be educational, interesting, and rewarding. Resist the depressing monotony of the boring landscape! Plant a few natives in your yard and be rewarded by the satisfaction of replacing a missing piece of your local ecosystem.



Claytonia virginica

Upcoming Events

Field Trips:

Saturday, April 5th – Explore Lead Hill Glade in

April – The owner of this exciting glade has graciously allowed us to come explore. The terrain is flat, but open, so wear a hat & sunscreen, and bring water—as well as a sack lunch. Meet at the Lead Hill Glade, about 1 mile north of Lead Hill on Highway 7, at 10:00 a.m. The turnoff is precisely at the top of the hill on the right. A driveway takes you into an open field. The building of a defunct business is visible. This glade provides excellent opportunities for photography. Contact leader Linda Ellis at 417-272-3890 for more information.

Saturday, April 12th Salado Creek and White River –

Lock 2, Batesville. 10:30 a.m. Meet at Riverside Park. Because of the travel distance to this meeting for most of our members, we would request that everyone interested in going contact Faye by phone or e-mail. Also, if the weather is extremely bad or threatening, check beforehand to make sure the trip is not cancelled. Contact leaders Faye and Hail Bryant at 870-698-1478 or e-mail rhbryant@cox-internet.com for more information.

Saturday, April 19th – Wildflowers on Mount

Magazine – At Mt. Magazine State Park. Fieldtrips and talks will explore identification, photography, and garden tips. Contact 479-963-8502 or mtmagazine@arkansas.com for more information.

Saturday, April 19th – The Flora of the Alum Fork

River – Join Ouachita Chapter President John Pelton for a trip to several botanically rich sites on the Alum Fork of the Saline River in Saline County, including the Narrows, a particularly rich site! Expect to see round-lobed hepatica, false rue anemone, spiderworts, columbine, green violet, Alabama lipfern, shooting star, and lots more. Also see one of only two Ouachita Mountain sites for walking fern. Meet at the Ramada Inn Parking Lot in Benton (just off I-30) at 10:00 a.m. or call Leader John Pelton for more information (501.316.1057).

Saturday, May 3rd – Explore Lead Hill Glade in

May – Why go to the glade twice? The diversity of plants at the glade is exceptional and merits several visits to observe the succession- also great for photography. Meet at 10:00 a.m. See April 5th for directions. Contact leader Linda Ellis at 417-272- 3890 for more information.

Saturday, May 10th – Ecology and Flora of the Grand Prairie – Join Arkansas Natural Heritage Commission botanist Theo Witsell for a guided fieldtrip of some of the last remnants of this once vast ecosystem. Learn about the broad diversity of plant species, (botanical) ghosts of the prairie, and current plans for landscape-scale restoration efforts. Call Theo at 501-324-9615 for more information.

Sunday, May 11th – Possum Trot – Meet at 10:00 a.m. at the Nail church parking lot, which is on the south side of the road, just across from the gas station/store, also on the south side of the road. If you are coming from the east, Nail is about 6 miles west of Deer on Highway 16. From the parking lot, we will car pool to the Forest Service parking site. Note: Don now has a GPS system so getting lost is not an option. This is a strenuous hike due to steep terrain, cut-over groves of magnolia trees, and the lack of a trail. Wear durable hiking shoes and bring a sack lunch. Leader: Don Mills.

Saturday, May 24th -- Devil's Den State Park -- Trails are maintained but mildly to moderately sloping. Bring a flashlight if you would like to explore the Devil's Den icebox. We hope to see the Yellow Monkey Flower (*Mimulus floribundus*). Dave Westendorf has offered to give us a tour of his backyard gardens in the afternoon, after which we intend to go out to eat and have a brief business meeting. Meet at the Visitor's Center of Devil's Den State Park, Winslow, at 10:00 a.m. Location: Devil's Den State Park can now be reached from Highway 540, the new Interstate. Turn west onto Highway 74, this is the fastest and most convenient route.

Saturday, June 7th: Chesney and Stump Prairies, Siloam Springs, Arkansas -- Joe Woolbright has been successful in restoring these two prairie sites, and we hope to have him lead the hike. The terrain is mostly flat, but bring sunscreen and water. We will eat in Siloam after the hike. Location: Meet at 10:00 a.m. at Smith Field, the local airport, located on Highway 59, just north of the Highway 412/59 intersection just inside the Siloam Springs city limits.

Other Events:

Tuesday, April 1st – Native Gardening Symposium –

Location: Ferndale 4-H Center, Pulaski County. Topics will include Plants of Arkansas' Six Natural Divisions. Rare, Threatened, and Endangered Plants of Arkansas, Native Grasses of Arkansas, and others. Contact Janet Carson at 501-671-2000 or e-mail jcarson@uaex.edu for more information.

Friday, April 4th – Saturday, April 5th – Arkansas Academy of Science Arkansas Flora Symposium – U of A Campus. See article in this issue for more information.

Friday, April 25th – Sunday, April 27th – Arkansas Native Plant Society Spring Meeting – DeGray Lake Resort State Park. For more information, see page _____

Saturday, May 17th – Spring Plant Identification Workshop – Locations: UCA (Conway), ASU (Jonesboro), UAM (Monticello), U of A (Fayetteville). Sessions are 9 am – 2 pm. For more information see the registration form in this issue.

Friday, June 21st – Saturday, June 22nd – Mount Magazine International Butterfly Festival – Notable guest speakers, guided hikes, and other activities will help you explore identification, life cycles, gardening, and photographing these interesting insects. Contact 479-963-8502 or www.butterflyfestival.com for more information.

Thursday, October 23 – Friday, October 24th – Rare and Invasive Plants of Arkansas Conference – U of A Continuing Education Center (Fayetteville). The new *Checklist of the Vascular Flora of Arkansas* will be available. More information will be in the next issue of *Claytonia*.

PLEASE SEND SUBMISSIONS/SUGGESTIONS TO:

219 Beechwood St.
Little Rock, AR 72205

anpsclaytonia@yahoo.com



Aster patens—late purple aster

Arkansas Native Plant Society Membership Application

Please check the appropriate box below.

Membership Categories:

- ☐ \$10..... Student
- ☐ \$15..... Regular
- ☐ \$20..... Supporting
- ☐ \$25..... Family Membership
- ☐ \$30..... Contributing
- ☐ \$150... Lifetime Membership (55 and over)
- ☐ \$300... Lifetime Membership (under 55)

- ☐ New Member
- ☐ Renewal

- ☐ Address Change

NAME(S) _____

ADDRESS:

Street or Box _____

City _____

State _____ Zip Code _____

Telephone _____ - _____ - _____

Email address _____

Please cut and send this form along with any dues to:

Eric Sundell, Membership ANPS
Division of Mathematics and Sciences
University of Arkansas at Monticello
Monticello, AR 71655

Please check your mailing label! If your mailing label has an 02 or earlier it is time to renew!

Life members will have an LF.

Please fill in the information form on the opposite side of this page and send it with your renewals, applications for membership, changes of name, address, email, or telephone numbers to the address given on the form: **[Not to the editor]**. Thank you.

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Membership: Eric Sundell.....870.367.2652
Ark. Coalition: Carl Hunter.....501.455.1538
Awards/Scholarships: George Johnson
george.johnson@mail.atu.edu

Check out our website at www.anps.org

The purpose of the Arkansas Native Plant Society is to promote the preservation, conservation, and study of the wild plants and vegetation of Arkansas, the education of the public to the value of the native flora and its habitat, and the publication of related information.

CLAYTONIA

**Theo Witsell, Editor
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LF

CLAYTONIA

Newsletter of the Arkansas Native Plant Society

Vol. 23 No. 3

Summer/Fall 2003

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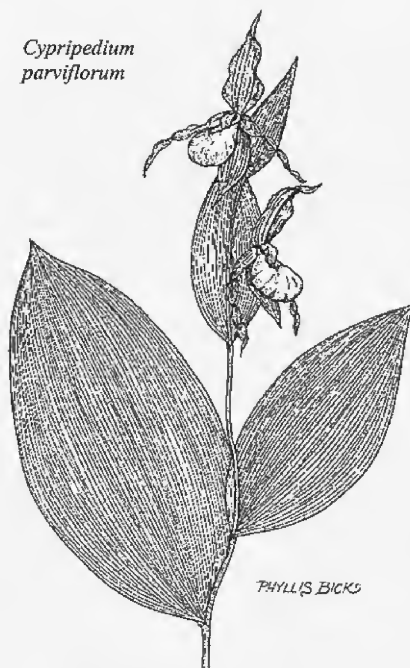
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A New Orchid Hybrid for Arkansas

George P. Johnson, Arkansas Tech University

While examining Arkansas orchid specimens from the University of Missouri-Columbia (UMO) for the Vascular Flora of Arkansas Project, I was fascinated by a specimen of *Cypripedium parviflorum*, the Southern Yellow Lady's-Slipper (UMO 82436). It seems to be intermediate between the two varieties of that species that we have in the state, vars. *parviflorum* and *pubescens*. Normally, var. *parviflorum* (Small Yellow) has a labellum that is 2-3 cm long, sepals that are dark reddish-purple, and 4-6 well-developed leaves per stem, while var. *pubescens* (Large Yellow) has a labellum that is 3-4 cm long, sepals that are greenish-yellow with reddish-purple lines, and 3-4 well-developed leaves per stem. The specimen, collected by E.J. Palmer in Washington County in 1925, #26986, consisted of 2 stems and combined the characteristics of both varieties. These plants had a labellum that was 2 cm long, sepals that were greenish-yellow with reddish-purple lines, and 4 well-developed leaves per stem.

*Cypripedium
parviflorum*



I consider this specimen to represent a hybrid and refer to it as the Hybrid Southern Yellow Lady's-Slipper. Interestingly, a quick search of the literature on North American orchids failed to find mention of any hybrid between these two varieties. At this time, I do not know how common this hybrid may be within Arkansas, nor its patterns of variation. Given that the flowering times and the distribution within the state of the two varieties overlap almost completely, it may be quite common and is just being overlooked, passing as one variety or the other. Any flowering plant of *Cypripedium parviflorum*, the Southern Yellow Lady's-Slipper, should be given a second look; its varietal identity may not be what it appears to be at first glance.

Pretty In Pink: The Calopogons

by Carl Slaughter M.D.

If you were to ask, what do you think is the prettiest family of our wildflowers? Most people would say the orchids. If you were to ask, which genus of our wild orchids would you say is the prettiest? Most people would say the Cypripediums (lady's-slippers) or the Platantheras (fringed orchids). I would like to add a third genus for consideration in this beauty pageant, the Calopogons (grass-pinks).

There are five species of Calopogons recognized in North America with one of the five species (*Calopogon tuberosus*) having two varieties. All of the species have been found in the eastern half of North America. The extreme southeast (Florida and surrounding states) are home to the greatest number of these species. One species (*C. tuberosus* var. *tuberosus*) can be found growing from Florida to Newfoundland. Another species (*C. oklahomensis*) has been found only in the mid portion of our country, and is relatively new to our lexicon. Calopogons can be found blooming in March in southern Florida, in May and early June in Arkansas, to July in Newfoundland.

The common name grass-pink would indicate that the flowers have a variation of pink in their color. However, all species exhibit an occasional white form.

The grass-pink orchid is a non-resupinate orchid. Most of our other orchids, as they go from bud to bloom, will rotate 180 degrees. Their lips are in the superior position when they begin their rotation, and end up in the inferior position after the completion of the 180 degree turn. This is known as resupination. The grass-pink mothers either failed to instruct their offspring in the maneuver, or they forgot. In all of the grass-pinks the lip is found in the inferior, non-resupinate position. Everything in nature has its purpose and reason. If it were not for this species' non-resupination, its chances of being fertilized would be greatly reduced. The grass-pink's column containing the anther and stigma are at the inferior location of the flower. The thin, hinge-like lip, with its colorful beard is found just over the column in the dorsal position. When a heavy enough pollinator, attracted by the color, lands on the lip, the lip hinges downward placing the pollinator in contact with the pollen grains and the stigma. This is how the Calopogons are pollinated.

Arkansas is home to two of the five species of Calopogons, *C. tuberosus* var. *tuberosus* and *C. oklahomensis*.

The following is a list of the North American Calopogons and a way to tell them from one another.

Calopogon multiflorus

Elongated forked corm; fragrant; purple rachis; pandurate petals; lip as wide or wider than long.

Calopogon pallidus

Widely spaced flowers on long spike; 1-3 flowers, opening simultaneously; other than *tuberosus*, the last to bloom; longest blooming period; lateral sepals reflexed.

Calopogon barbatus

Not fragrant; closely spaced flowers, opening simultaneously; stem and leaves elongate over the growing season; 2nd to *oklahomensis* in earliest to flower; appressed narrow leaf.

Calopogon tuberosus var. *tuberosus*

Leaves only slightly curled transversely; grows in acidic wetlands; elongated lip with non-white, anvil-shaped, dilated distal end; blooms open in succession.

Calopogon tuberosus var. *simpsonii*

Grows in wet, marly soil; strongly transversely curled leaves; narrow and pale apex of middle lip lobe; lateral sepals sometimes reflexed.

Calopogon oklahomensis

Grows in remnant prairies; first to bloom; elongated forked corms; flowers open simultaneously 1 cm apart; lateral sepals reflexed; leaf length equal to inflorescence height; distant labellum disc same color as most of the flower; triangular region of short, pink hairs; fragrant.

Calopogon oklahomensis is suspected to be an ancient hybridization between *C. barbatus* and *C. tuberosus*, so let us go out and find *C. barbatus* in Arkansas.



Wild Edibles: Gooseberries

by Jan Phillips

Thanks to the negotiation skills of ANPS member and former president Don Crank, a new edible plant column will appear in the Claytonia written by Jan Phillips and excerpted from her book "Wild Edibles of Missouri", published by the Missouri Department of Conservation. In each issue I will make an effort to include a species that will be available when the issue comes out, for those of you who would like to try out a recipe or two. When eating any wild plant though, be sure to correctly identify the species, as some have poisonous look-alikes. Use caution and common sense. Thanks to Jan and the MDC for the permission to include these reprints here.—ed.

GOOSEBERRY (*Ribes missouriense*)

FLOWERS: April - May

DESCRIPTION: Simple, palmate leaf, irregular toothed.

Woody stems with spines. Flowers dangle downward.

Saxifrage Family

HABITAT: Rocky or open dry woods, thickets

LOCATION: North Arkansas (Ozark Mountains)

COLLECTION: Leaves, March - May; Fruit, June - September

USES: Fruit, pie, cobbler, jelly, tea

Just mention gooseberries to me and the saliva begins to flow. This is due to the fact that I love the sour, tart berry and am enthusiastic about all of the products made from it. To enjoy a gooseberry while it is green, one must hold the berry in the mouth, slowly breaking it open and allowing adequate saliva to accumulate and dilute the sour flavor.

The puckery berry, for my taste, is best when picked still green. The gooseberry hangs on a stem which generally pulls off with the berry. A hairy beard or whiskers remains on the flowering end of the berry. Both stems and whiskers must be plucked off before using in pies or cobbles. One must truly work for his supper if gooseberry pie is on the menu. Although time consuming, the result is "par-excellence"! After stems and whiskers are removed, put washed berries in a pie shell. Add 1&1/4 cup sugar, 1/2 t salt, 1 1/2 T flour, 1 T oleo, and top with the upper crust. Bake at 400 degrees for 45 minutes to an hour, or until golden brown.

The ripe reddish or purple berry does not have the tangy tartness and is preferred by some in the pie. If ripe berries are used, add only 3/4 cup of sugar.

The delicate, pink colored jelly made from the green gooseberry is ambrosial food on hot breads. Gooseberry jam is equally good. My mother kills two birds with one stone when making both jelly and jam. She covers the berries with water and cooks for ten minutes or so. Then she pours off most, but

not all, of the juice liquid. This is made into jelly by returning it to the heat, adding a small amount of Sure-jell and a cup of sugar per cup of liquid. The remainder of the juice and berries was run through a colander to get as much of the pulp as possible. Again measure cup for cup with sugar, but add no Sure-jell in jam. When the liquid slithers off the spoon and begins to gel, pour into sterilized jars and seal.

Gooseberry leaves may be used raw in a tossed salad or slaw. The young dried leaves may be used for making tea. Pick the young leaves and allow three months to dry. A tea is made by adding 1 t crushed gooseberry leaves to one cup of hot water and allowing it to steep for several minutes. Another name for this fruit is feverberry, so called because it is said to help break a fever by crushing 1 t of the berries and adding that to a cup of hot water.

Whatever the name - feverberry, current, or gooseberry -- it's not great, it's FANTASTIC!!!!

From "Wild Edibles of Missouri," Copyright 1979 by the Conservation Commission of the State of Missouri. Used with permission.

"Wild Edibles of Missouri" can be purchased from Missouri Department of Conservation for \$6.00 plus S & H by calling 1-877-521-8632 or go to www.mdcnatureshop.com



Ribes missouriense
(Missouri gooseberry)

ANPS Sends Kids to Ecology Camp

The Arkansas Audubon Ecology Camp Committee would like to thank the Arkansas Native Plant Society for their generous financial support in helping to send three budding young naturalists to the Arkansas Audubon Ecology Camps in June. The ANPS contributed \$500 in full and partial scholarships to send Alan McCray of Little Rock, Jazlynn Wisener of Norman, and Cody Daniels of Malvern to the camp.

UARK Herbarium to Remain Open

The University of Arkansas has announced that the UARK Herbarium will remain open despite recent cutbacks in funding at the University of Arkansas Museum. Dr. Johnnie Gentry, former director of the University Museum, will be the full-time herbarium director and curator. The herbarium will remain at its current location in the Biomass Research Center at the U of A Farm in Fayetteville. This is great news for the Arkansas Flora Project, all botanical researchers, state and federal agencies, and all those interested in the flora of Arkansas. Thanks to the U of A for finding a way to continue funding despite ongoing budget cuts, and many thanks to the Arkansas Native Plant Society for their support of the Herbarium!

Memorials to Arkansas Vascular Flora Project

Since the last issue of the *Claytonia*, donations in memory of the following people were made to the Arkansas Vascular Flora Project by Don Crank:

B. Gregory Cook
Elsie Logan
Mary Macchietto

To make a memorial, please make checks payable to University of Arkansas Foundation, for Flora of Arkansas Project.

Send to Johnnie L. Gentry, Curator
University of Arkansas Herbarium,
Biomass Research Center 139,
Fayetteville, Arkansas 72701

New ANPS Members

The following new members have joined the Arkansas Native Plant Society since the last issue of *Claytonia*:

- Brent Baker (Dardanelle, AR)
- Margaret D. Beasley (Greenbrier, AR)
- Ellen & Tom Fennell (Little Rock, AR)
- Susan Heaney (Jerusalem, AR)
- Lynn Major (Little Rock, AR)
- National Park Service Heartland Network Inventory & Monitoring Program (Republic, MO)
- Lori Spencer (Paris, AR)
- Bill Worthen (Little Rock, AR)

We welcome these new members to the ANPS!

New Orchid Book for Arkansas

A new book on the native orchids of Arkansas is being written and publication by The University of Arkansas Press is expected in a few years. The authors are George P. Johnson Ph. D. of Arkansas Tech University, and Carl Slaughter M.D. of Morrilton. The book is intended to serve as a complete guide to the native and naturalized orchids of the Natural State and will be suitable for use by professionals and amateurs alike.

While there are both non-technical and technical resources available to assist individuals with orchid identification within Arkansas, there is a great need for a more comprehensive treatment of this plant family than now exists. Such resources are available for many other states, some nearby or adjacent to Arkansas. The new book on Arkansas orchids will include tools like keys for identification, written descriptions, photographs, drawings, distribution maps, a glossary, and a pronunciation guide. No matter where they are, anyone from a casual hiker to a professional botanist will be able to readily identify with confidence all of the orchids known to occur within the State.

The Orchidaceae, the orchid family, is the largest family of monocots and includes approximately 20,000 species. At this time, 42 different orchids are known to occur in Arkansas. Many of them are of conservation concern as their habitats come under increasing pressure from disturbance and development.

George P. Johnson, Arkansas Tech University

Meet the New Botanist! Dr. Brett Serviss

Though he has been here for more than a year, many ANPS members may not have had a chance to meet Dr. Brett Serviss, the new Assistant Professor of Biology at Henderson State University in Arkadelphia. Dr. Serviss is a botanist and plant taxonomist and is following Dr. Dan Marsh, who retired from Henderson two years ago, as the resident botanist at that institution.

Dr. Serviss was born in Lawton, Oklahoma in 1971. He received a B.S. in biology with a chemistry minor from Cameron University, a M.S. in weed science from Mississippi State University, and a Ph.D. in general botany and plant taxonomy from Mississippi State University. He now lives in Arkadelphia with his wife Tricia and their two children: Annabelle (3) and Lydia (6 months).

His professional interests are primarily weedy and invasive species (including population biology, along with dynamics and factors affecting colonization, establishment, and spread of these species). Other research interests include *Narcissus*, Bignoniaceae, Araceae, and the Arkansas flora. He is also interested in herps and fishes, landscaping, family, and church. When I asked him why he came to Arkadelphia he said, "I accepted the job at Henderson because I wanted to teach at a small school where I could get to know students, teach a variety of biology courses, and pursue research interests. I enjoy community outreach endeavors that build relationships between the local community and the University."

Though he didn't mention it in the bio he sent for this piece, Dr. Serviss is a very talented botanical illustrator, and has had his technical illustrations published in scientific journals. He plans on helping to write and illustrate the upcoming *Manual of the Vascular Flora of Arkansas*. He will be giving a talk on Invasive Aquatic and Wetland Plants of Arkansas at the Rare and Invasive Plants of Arkansas Conference in October (see registration form this issue). The ANPS would like to welcome Dr. Serviss to Arkansas!

- Theo Witsell

Wildflower Poaching - A Persistent Problem

On May 10 I led a field trip to several remnants of the Grand Prairie near Hazen, Arkansas. One of the main attractions of this trip was the chance to see the rare bearded grass-pink orchid (*Calopogon oklahomensis*), which is restricted to these

unplowed prairie remnants. We pulled up to one of the Natural Areas, where I knew the exact location of a small population of these orchids. I led the group over to the area and was dismayed to find a number of fresh holes scattered around the area where the orchids were. These weren't groundhog or armadillo holes, mind you, but characteristic shovel imprints.

I don't know if the poachers were digging orchids or if they were after one of the many other species of showy wildflowers. Either way, this digging can do irreparable harm to rare plant populations. Sadly, this isn't the first time I've seen areas where poachers have ransacked protected Natural Areas. I was at White Cliffs Natural Area a couple of years ago and found holes all over the ground where there was formerly a nice stand of pale purple coneflowers. This happens on protected lands all over the state. Sometimes it is wildflower gardeners, sometimes it is commercial root diggers.

Almost all of our native wildflowers are easily grown from seed. Yes, it takes longer to grow them from seed, but we rob from the future when we dig plants from protected areas. If you must dig, get permission from landowners to dig from areas that are going to be destroyed by development. Otherwise, grow from seed! Digging plants without a permit on protected areas in Arkansas is illegal and is punishable by law. Please report illegal digging to the county Sheriff and the landowner or manager.

- Theo Witsell



*Echinacea
purpurea*

*Echinacea
pallida*

Two popular poaching victims in Arkansas...

Spring 2003 Minutes

ARKANSAS NATIVE PLANT SOCIETY

General Meeting

April 26, 2003

The general meeting of the Arkansas Native Plant Society was called to order at 8:05 p.m., in the Caddo Room at DeGray Lake Resort by the President, Mary Ann King.

SECRETARY'S REPORT: There was an omission in the minutes of the October 12, 2002, meeting under New Business. It should read, "The motion was made that ANPS accept the project (Jude Jardine's) and fund it up to the amount of \$1,000." Linda Gatti Clark moved that the minutes be approved as amended; Lana Ewing seconded; the minutes were approved as amended.

TREASURER'S REPORT: Barbara Little distributed the Treasurer's Report. Ed Schoenike moved that the report be approved; Carl Amason seconded the motion; the Treasurer's Report was approved as presented.

OLD BUSINESS: Barbara Little reported on the progress of obtaining tax-exempt status for ANPS, which will allow donors to receive a tax deduction. The IRS made a recommendation to amend our Articles of Incorporation and Barbara read the wording the IRS suggested using in the amendments. Don Crank moved to accept the revisions and continue to work on getting this status. Jim Peck seconded. The motion passed. Barbara reported that the IRS had told her that donations will be 50 percent deductible.

Johnny Gentry explained the different accounts of the Arkansas Vascular Flora Project. There is the U of A Foundation, the U of A straight account for donations, and U of A funds for workshop registration. Donations for the Flora Project should be sent directly to Johnny Gentry, University Herbarium, Biomass Research Center 141, University of Arkansas, Fayetteville as printed in the Winter, 2003, Claytonia. The check should be made to the U of A Foundation for the Arkansas Flora Project. The Checklist of the Plants of Arkansas being compiled by the Arkansas Flora Committee is due into Jim Peck by September 1; the project should be available by October 23-24, 2003.

The editor of the newsletter, Theo Witsell, asks for comments, suggestions, compliments, or complaints to the Claytonia. These can be sent by e-mail to anpsclaytonia@yahoo.com.

Jude Jardine had a sample of her final format on invasive plants. Her biggest problem is images. She passed around a list of species which need images and asked that any contributions be sent on her e-mail or a disc. She needs two or three persons to volunteer to edit the work. She plans to be finished by the fall, and hopefully it will be ready to be passed out at the fall meeting.

NEW BUSINESS: The fall meeting is tentatively set for the last weekend in September in Paris, Arkansas/Mt. Magazine. Confirmation will be in the Claytonia.

President King appointed a nominating committee for the offices of vice-president, secretary and historian. The committee consists of Lana Ewing, chairman, Don Crank and Jude Jardine.

ANNOUNCEMENTS: Johnny Gentry announced a workshop on trees, vines and woody plants to be held at UCA, Jonesboro, Monticello and Fayetteville on May 17 from 9:00 a.m. to 2:00 p.m.. The registration deadline is May 5.

There is a \$15.00 fee to attend, \$10.00 for additional members of a family group, and \$10.00 for ANPS members.

Eric Sundell passed out brochures for the Audubon Camp for 11 and 12 year olds. There are two sessions, June 15 and June 22. \$500 was approved in the fall for this summer. There will be a vote again in the fall of next year on financial aid for the next summer.

Barbara Little reported on her visit to Garvan Gardens today and their plans for a future bird garden.

The field trip on Sunday will be led by Bill Shepherd on the Terre Noire Blackland Prairie Natural Area. Those interested will meet at 9:00 a.m. at the Best Western parking lot in Arkadelphia on I-30. There is a breakfast buffet that opens at 6:00 at Bowen's Restaurant which is associated with the Best Western.

The meeting was adjourned at 8:45 p.m.

Respectfully Submitted,
Sue Clark, Secretary



*Smilax
smallii*

ANPS Fall 2003 Meeting

DATE & LOCATION

September 26-28, 2003
Paris, Arkansas (near Mt. Magazine)

Other motels in Ozark:

Ozark Motel - 479-667-1500
Hillbilly Inn - 479-667-2995

SCHEDULE

Friday 26 September

6:00 to 7:00 pm - Registration in the St. Joseph Parish Hall
7:00 pm - Auction

Saturday 27 September

8:00 am - field trips to Mt. Magazine and other places
7:00 pm - business meeting

Sunday 28 September

8:00 am - field trips

DIRECTIONS

The auction on Friday evening and the business meeting on Saturday evening will be at St. Joseph's Parish Hall, which is located on the west side of Paris on Highway 22 (a.k.a. Walnut Street), 1 block from the town square, across the street from the Chamber of Commerce.

ACCOMMODATIONS

Paris: Paris Inn 479-963-2400
Double - \$42.36 (room + tax - total price/night)
single - \$39.11 (room + tax - total price/night)

The Paris Inn is on the east end of town on Highway 22 about 2 blocks from WalMart, next door to the police station.

Call by 31 August to confirm room; We have 25 rooms here - 3 have kitchenettes.

Other accommodations (as we will probably run out of room in Paris):

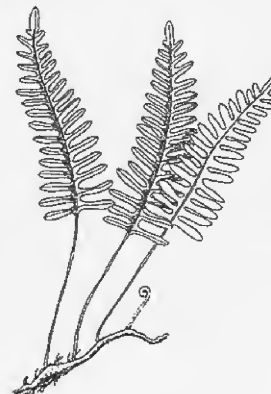
Camping - contact Mt. Magazine State Park 479-963-8502

Ozark: Oxford Inn 479-667-1131
All rooms \$39 + tax (have 10 downstairs rooms for us - contact by 31 August)

You've laughed at his jokes at the meetings! You've seen his gardens on TV! You've been amazed by his knowledge on field trips! You've been entertained by him during the annual auction! Now, the Arkansas Native Plant Society is pleased to announce the 2003

STUMP CARL AMASON **CHALLENGE!**

That's right! Bring your obscure plants—natives, ornamentals, house plants, weeds, you name it, to the fall meeting! If you don't know what it is, Carl probably does! (and if not, he'll make up something funny all the same)... Challenge one of the most knowledgeable plant people in the state and learn some plants at the same time! Prizes for anyone who can stump Carl!



*Pleopeltis
polypodioides*
(resurrection fern)

ANPS Field Trip Reports

I received two accounts of the field trip to the seep on the Ross Foundation land from the Spring meeting—one from Mary Ann King and one from Carl Amason. They were different enough to include both, so here they are—ed..

Ross Foundation Seep I

By Mary Ann King

Don Crank certainly gets the award for securing the best spring meeting field trip. About half-way between DeGray & Hot Springs, the seep was intriguing with so much to look at that we could have easily spent all day instead of the few short hours.

Wild blueberries (*Vaccinium* spp.) of several species were in bloom. Some of the photographers in the crowd got some good shots of these. 'Hey, look at this!' rang out repeatedly. Mountain azalea (*Rhododendron prinophyllum*) was still in bloom, its spicy fragrance delighting all. Umbrella magnolias (*Magnolia tripetala*) were in full bloom, defying Carl Amason's pronouncement that they all smell bad... A real treat was large-leaved storax (*Styrax grandifolia*) in full bloom – one after another after another.

Royal fern (*Osmunda regalis*), cinnamon fern (*Osmunda cinnamomea*) & sensitive fern (*Onoclea sensibilis*) were in all their glory, with cinnamon & royal fern showing their rust colored fertile fronds. Christmas fern (*Polystichum acrostichoides*) abounded & resurrection fern (*Pleopeltis polypodioides*) was spotted here & there.

Other great plants seen but not in bloom were Solomon's seal (*Polygonatum biflorum*), wild black cherry (*Prunus serotina*), bellwort (*Uvularia* sp.), dogwoods (*Cornus florida*), crested iris (*Iris cristata*), dogbane, vernal witchhazel (*Hamamelis vernalis*), parsley haw (*Crataegus marshallii*), & pasture haw (*Crataegus spathulata*) & rusty blackhaw (*Viburnum rufidulum*).

Talking about common names some of us wondered how the name Solomon's Seal came about. If anyone knows, please share this info with the rest of us. *

Dr. Sundell taught us that the tender tips of greenbrier (*Smilax* spp.) are delicious!

* Editor's note: The way I've heard it told, Solomon's seal gets its name from a series of flat, round scars on the rhizome. These can be seen by carefully excavating the dirt from the base of a mature plant (without actually digging it up). These white, round depressions, or "seals", are about the size of a dime and appear to have been pressed into the root (as with old-fashioned sealing wax, which was used to seal letters in the old days) – ed.

Ross Foundation Seep II

By Carl Amason

Don Crank, one of the fern experts in the Arkansas Native Plant Society, led a trip in the afternoon to a site owned by the Ross Foundation. Upon arriving to the site, near Dead Man's Curve (a sharp curve through a mountain pass that was eliminated by recent highway construction) between Lake DeGray and Hot Springs, the first thing to catch our eyes on the rocky, sunny embankment were the plants of the bicolored bird's foot violet (*Viola pedata*) and there were several in the beginning dry woods on the sides of an old settlement road. There were many plants of winged elm (*Ulmus alata*), red maple (*Acer rubrum*), hop hornbeam (*Ostrya virginiana*), white oak (*Quercus alba*), and northern red oak (*Quercus rubra*) on both sides of the roadbed. A presumed wild turkey nest was shown to us next to a small tree in the leaves, but the hen had just flown away.

Shortly, we came to an intersection of another settlement road and it soon paralleled a flowing, bubbling brook that we followed for the rest of the trip. The road gradually dipped into moist woodlands and we didn't cross the brook but stayed near it and found so many plants in mid-spring bloom. There were several Carolina silverbells (*Halesia tetraptera*) and bigleaf snowbells (*Styrax grandiflora*). Then flowering rose-shell azalea (*Rhododendron prinophyllum*) with deep pink to rosy flowers scattered on the side toward the brook. Several *Vacciniums* were on the dry side of the road and one was lowbush blueberry (*Vaccinium pallidum*), an extremely stoloniferous low bush type. Another was deerberry (*Vaccinium stamineum*) which has more open-lobed white flowers with extended stamens that are usually described as resembling a ballerina's tutu with her dancing feet extended.

Growing close to the water's edge were noble plants, fully four feet tall, of royal fern (*Osmunda regalis*) with bipinnately compound leaves and cinnamon fern (*Osmunda cinnamomea*), both with showy sporangia. All along the creek bottom were umbrella magnolias (*Magnolia tripetala*). They were common and in the peak of perfection. A bit further we turned around and there was a seepy area populated with New York fern (*Thelypteris noveboracensis*). Just about any place there were garden worthy plants. No trilliums or orchids were noticed but they were probably present. The whole area was a vast rock garden, complete with a clear mountain stream and plenty of rocks.

The afternoon trip was shortened because so many member of the ANPS board were in the group and they had a meeting to get to. This is one place the writer would like to return to and see it at any season, especially the spring.

ANPS Field Trip Reports

Terre Noire Natural Area

By Carl Amason

Terre Noire Natural Area near Arkadelphia in Clark County is part of a blackland prairie that occurs in southwestern Arkansas. At one time it was considered prime cotton land but this part of the prairie is now owned by the Arkansas Natural Heritage Commission. It is a distinct one, with French spelling, but the local pronunciation of the name is "Turn War". At one time Native Americans kept the land burned to maintain a good pasture for bison, but now the Natural Heritage Commission uses prescribed fire to keep the eastern redcedars, pines, and sweetgum trees from encroaching on the prairie.

The trip was led by Bill Shepherd and Dr. Eric Sundell, both knowledgeable plant people. The first flowering plant seen was *Penstemon laxiflorus*, but the flowering head wasn't as loose or lax as the ones growing in Union County's acid soils. Next was a single plant, identified as a "sandwort". It resembled an alpine or rock garden plant. In the open prairie, there were hundreds of fossilized snail shells, which kept very well in the black calcium rich soil. There were hundreds of old stalks and seed heads of the pale purple coneflower (*Echinacea pallida*), but no leaves emerging yet. The Arkansas Natural Heritage Commission has been successful so far in the prescribed burning and is keeping out eastern redcedars, pines, and other unwanted woody vegetation.

In the middle of the Natural Area remains a small grove of trees including some calciphytes such as nutmeg hickory (*Carya myristiciformis*), American elm (*Ulmus americana*), and slippery or red elm (*Ulmus rubra*). We made a loop through the area, continuing through a woodland along a right-of-way where flowering plants of rose verbena (*Glandularia* or *Verbena canadensis*). We also found some plants of the Hercules club or toothache tree (*Zanthoxylum clava-herculis*) and some field trippers chewed enough of the bark to get a tingling sensation. Next came a sampling of chewing the bark of the slippery elm and a woman from Dardanelle who didn't try a toothache twig, did chew after being assured that no trick was involved, and the mucilage would probably help her hoarseness. She chewed and in a short time she could speak well enough to assert herself.

Soon we were back at our cars and it was time to say farewell to Terre Noire Natural Area. About six of us stayed around for a while, after becoming engrossed in watching a dung beetle rolling a ball of dung across the highway. They had never seen such activity before except for one Union County farm boy that learned them as tumble-bugs and knew what was going on. She got to the edge of the pavement, stopped for a moment, leaving the dung ball behind and disappeared under the pine straw by

the edge of the road. Soon the pine straw looked as if she was doing push-ups and she soon reappeared, got the ball of dung, and disappeared under the leaves to bury it. The experience of watching the dung beetle was well worth the time. In ancient Egypt, dung beetles were sacred; a symbol of life after death, or resurrection. In the classical literature they were known as scarabs. Gemstones were and are still carved in their likeness. So, wildflower people are adaptable, they have so many interests, and life for them is never boring!

Terre Noire Natural Area has recently been expanded from 76 acres to 244 acres. For a map and directions to Terre Noire Natural Area, contact the Arkansas Natural Heritage Commission at 501.324.9619 or visit their web site at <http://www.naturalheritage.org>.

Towering Pine Trail DeGray Lake State Park

By Carl Amason

A delegation of the ANPS left the parking lot and drove to the trailhead near the amphitheater where parking was ample. The ANPS members were not alone as another birdwatching group was gathering, but we never heard or saw anything of the group again as we all went in separate ways. Movement was slow and deliberate as the crowd investigated all the plants, as everything was so interesting. The leader was Dr. Eric Sundell, followed by Dr. Jewel Moore.

The trail sloped down to a footbridge that crossed a small flowing stream. Below the bridge was a scrambling vine of coral or trumpet honeysuckle (*Lonicera sempervirens*) in bloom. The trail then arose up to dry shortleaf pine (*Pinus echinata*) and other woodland trees and large shrubs bordered the trailsides. Parsley-leaved hawthorns (*Crataegus marshallii*) were past blooming and pasture hawthorns (*C. spathulata*) were just beginning to bloom. Along the way was some herbaceous Dutchman's pipe (*Aristolochia reticulata*), not in bloom yet but flowering stems, well-budded, came off the erect plants, one to the plant, growing at ground level 90 degrees from the leafy stem, often hiding in the leaf litter. There were some beautiful flowering examples of the fringe tree or grancy graybeard (*Chionanthus virginica*) that were scattered about the woods, especially in the more open, sunny areas. Common also along the trail were the winter leaves of the crane-fly orchid (*Tipularia discolor*) and they were the only sign of any orchid noted. There were also plants of ebony spleenwort (*Asplenium platyneuron*) along most of the dry uplands.

ANPS Field Trip Reports

The trail turned back toward the DeGray Lake side and followed an intermittent stream, which became more of a permanent weak flow of water before the lakeside was reached. Partidgeberry (*Mitchella repens*) carpeted the ground but only had well-developed buds. Other ferns were noted – Christmas fern (*Polystichum acrostichoides*) which were soon supplanted by lady fern (*Athyrium filix-femina*) in more moist soil. In a part of the rocky streambed where water trickled, American alumroot (*Heuchera americana*) was in its full, insignificant bloom. There were several yaupon hollies (*Ilex vomitoria*) in bloom along the trail and the open flowers made easy the distinguishing between male and female flowers, always on separate shrubs of this American holly, the only North American holly that contains caffeine.

On the lakeshore, shrubs of buttonbush (*Cephalanthus occidentalis*) were just beginning to show green in their foliage buds. And when the lakeshore was reached, there was a scramble by the botanists in the group to gather herbarium specimens of water pygmy weed (*Tillaea aquatica*) and then Dr. Jewel Moore found growing in the mud of the water's edge one of the rarest fern allies in North America, pillwort (*Pilularia americana*), complete with spore "pills" on the roots. It takes good eyesight and some imagination to see the plant, let alone discover it! It is rarely seen. Both the *Tillaea* and the *Pilularia* are considered new records for Hot Spring County. Some of the bystanders were perhaps disappointed by the finds but happiness and excitement prevailed due to the discoveries.

Dr. Sundell found a black rose fungus and demonstrated how they release their spores when disturbed. All along the way were scattered plants of the hairy spiderwort (*Tradescantia hisuticaulis*) in shades of bluish and purplish, and one colony of Ohio spiderwort (*T. ohioensis*) were found that had bluish, purplish, and pinkish flowers all close together. Back at the parking lot was the foliage of some Amaryllis family plant without buds, that resembled any species in the family.

The field trip ended with a feeling of accomplishment, good feelings and fellowship of kindred souls. People were ready to go again.

Upper Saline River By John Pelton, Ouachita Chapter President

We had ten people show up for the Saline River field trip in April. We were able to stay out for two hours before we were rained out. We first went to the Narrows, then on to the county line rock garden (a rocky sandstone ridge in the Ouachita National Forest on the Saline/Perry County line). We were going to check out the lady's-slipper site near Danville Rd., but

were rained out. Those attending were Tanya Miller, Theo Witsell, Penny Robbins, A. J. Higginbottom, Doug Wilson, Beckie Moran, George and Lilly Sinclair, Yvonne Becker and myself.

There turned out to be two rock gardens in the National Forest. The first was at the peak of a sandstone outcrop along the Saline and Perry County line within view of the Winona Scenic Drive (Forest Rd. 132), which runs between Hwy. 9 on the east end and Hwy 7 on the west end. Here our fieldtrip observed large clumps of rose verbena (*Verbena canadensis*) mixed with Ohio spiderwort (*Tradescantia ohioensis*) and scaly blazingstar (*Liatris squarrosa*). When the *Liatris* began blooming, it turned into a butterfly garden. All I needed was a shaded rock I could sit on while waiting for those beauties to come to the flowers I had focused my camera on. I heard several clicks of the camera as they flew in to have their pictures taken.

The other rock garden is on Forest Rd. 179, which I take on the way out to Forest Rd. 132. It seems that the Forest Service's prescribed burn program has released approximately 1 1/2 acres of the white-flowered Texas azalea (*Rhododendron viscosum*), very fragrant and beautiful along the north facing slope. The plants are all youngsters but were simply full of flowers. I only observed about six old plants. Some were pretty old, approximately five feet in height, so a historic site from years back is being restored.

I was able to confirm that we have a fairly stable population of Kentucky lady's-slipper orchids (*Cypripedium kentuckiense*) along some small feeder streams on the upper Saline River, and one small clump on the north bank of the Alum Fork River. I also heard from our local upper Saline guru, Bill Chaney, that a local turkey hunter had seen approx. sixty yellow lady's-slippers in April, which would be the southern yellow lady's-slipper (*C. parviflorum* var. *pubescens*) species. What this could mean is that late blooming *C. parviflorum* var. *pubescens* could hybridize with early blooming *C. kentuckiense*, which would give proof that they do cross-pollinate (see article elsewhere in this issue about hybrid yellow lady's-slipper orchids – ed).

Theo and I located the Brown's waterleaf (*Hydrophyllum brownei*) site on the upper Saline, a real nice population near Steel Bridge on the North Fork. Also, our trip to the Ouachita National Forest west of Mt. Ida added some taxonomic questions to the Ouachita populations of spiderworts (*Tradescantia* spp.).

On the rare butterfly front, The male Diana Fritillaries were approximately one week early this year. I have seen several along the forest roads, and we had six in our yard June 4. They seem to know when the monarda, purple coneflowers and butterfly weed are starting to bloom.

The Arkansas Vascular Flora Project presents a

RARE AND INVASIVE PLANTS OF ARKANSAS CONFERENCE

October 23 & 24, 2003

Fayetteville, Arkansas

With events at:

**U of A Continuing Education Center
UARK Herbarium
& Clarion Inn—Fayetteville**

Co-sponsors:

**Arkansas Natural Heritage Commission
U of A Herbarium
US Fish and Wildlife Service
Ouachita National Forest
Arkansas Field Office of The Nature Conservancy
Arkansas Vascular Flora Committee
FTN Associates, Ltd.**

Registration forms and conference information will be available on the Arkansas Flora Project website at <http://www.uark.edu/~arkflora/> and the Arkansas Natural Heritage Commission's website at <http://www.naturalheritage.org>.

This conference will coincide with the release of the new *Checklist of the Vascular Plants of Arkansas*, compiled by the Arkansas Vascular Flora Committee. Copies of the Checklist will be available for sale at a discounted price.

Rare and Invasive Plants of Arkansas Conference

Schedule & Directions

Thursday October 23

1:00 PM— Depart for field trip to Chesney Prairie Natural Area, Cave Springs Cave Natural Area, and Stump Prairie (meet at U of A Herbarium). **Note:** We will carpool to the field trip sites from the Herbarium.

4:30 PM— Return from field trip

5:00— 6:00 PM— Conference check-in at Clarion Inn

5:30—6:30 PM— Social at Clarion Inn

6:30— 7:30 PM—Dinner at Clarion Inn (provided)

7:30—8:30 PM— Evening Program at Clarion

Clarion Inn (Dinner and Program on Thursday evening, October 23)

The Clarion Inn is located at 1255 S. Shiloh Drive, at the intersection of I-540 and US Hwy 62 in the southwest part of Fayetteville. Take Exit #62 on I-540. The hotel is south of Hwy 62 and west of I-540.

The U of A Continuing Education Center (all day on Friday, October 24)

The U of A Continuing Education Center is located in "the square" in downtown Fayetteville, which is most easily accessed from Hwy 71B (a.k.a. College Ave.). The Center for Continuing Education is on the northeast corner at the intersection of Center Street and East Avenue. It is next door to the Radisson Hotel (prominent in the Fayetteville skyline). See attached map for more directions.

Info packet upon receipt of registration will include info on parking options near the Fayetteville Square.

Friday October 24

All of today's activities will take place at the U of A Continuing Education Center in downtown Fayetteville.

7:30—8:30—Conference Check-in

8:00 AM— 12:00 PM— Presentations

12:00 PM— 1:00 PM— Lunch (provided)

1:00 PM— 4:30 PM— Presentations

Directions to Conference Events

UARK Herbarium (meet for field trip on Thursday, October 23)

The UARK Herbarium is located in the Biomass Research Center, which is on the U of A Farm in Fayetteville not far from I-540. From I-540, take the State Hwy 112/Garland Avenue Exit (Exit #66) and proceed south on Hwy 112/Garland Ave. for approx. 1 mile to Knapp St. (you will see a sign that says "Pauline Whitaker Animal Science Center"). Turn right onto Knapp and go one block to Hatch Ave. Turn right onto Hatch. Park in the Biomass Research Center parking lot. The Biomass Research Center is the one story dark brown building immediately on the left.

Lodging

A block of rooms has been reserved for Thursday night, October 23 at the Clarion Inn at the government rate of \$55 per night. Phone = 479.521.1166. There are several other hotels in the area (see below) as well, but rooms were only reserved at the Clarion.

Red Roof Inn
1000 S. Futrell Dr.
479.442.3041

Quality Inn
523 S. Shiloh Dr.
479.444.9800

Holiday Inn Express
1251 N. Shiloh Dr.
479.444.6006

Super 8
1075 S. Shiloh Dr.
479.521.8866

Hampton Inn
735 S. Shiloh Dr.
479.587.8300

Radisson Hotel (adjacent to U of A Cont. Ed. Center)
70 N. East Ave.
479.442.5555

List of Topics & Speakers:

Thursday October 23

Field trip to Chesney Prairie Natural Area, Cave Springs Cave Natural Area, & Stump Prairie (focusing on restoration efforts and invasive species problems there) *Led by Joe Woolbright (Contract Land Steward, Arkansas Natural Heritage Commission)*

Presentation: Arkansas' rare and threatened ecosystems and rarest & most invasive plants (slide show) *Theo Witsell (Botanist/Field Ecologist, Arkansas Natural Heritage Commission)*

Presentation: Competitive advantages of Japanese honeysuckle over native honeysuckles *Katherine Larson, Ph.D. (Associate Professor of Biology, University of Central Arkansas)*

Presentation: Rare and invasive species management on the Ouachita National Forest *Susan Hooks (Botanist, Ouachita National Forest)*

Presentation: Alien Plant Invaders of Arkansas: A Floristic Perspective *Johnnie Gentry, Ph.D. (Director and Curator, University of Arkansas Herbarium)*

Friday October 24

Presentation: Restoring ecosystems and managing invasives on a landscape scale in Arkansas *Scott Simon (Director of Conservation, Arkansas Field Office of The Nature Conservancy)*

Presentation: Restoration and management of the federally listed Missouri Bladderpod in the Ozarks *Paul McKenzie, Ph.D. (Endangered Species Coordinator; U.S. Fish and Wildlife Service, Columbia, MO)*

Presentation: Threats posed by invasive species to rare endemic species in the Southeast United States *Kim McCue, Ph.D. (Conservation Biologist, Missouri Botanical Garden)*

Presentation: Relocation and monitoring of *Geocarpon minimum* on sandstone glades in Missouri *Tim Smith (Botanist, Missouri Department of Conservation)*

Presentation: Dolomite Glade Restoration in the Missouri Ozarks *Dan Drees (Natural Resource Steward, Missouri Department of Natural Resources)*

Presentation: Genetic research on Moore's Delphinium, an Interior Highlands endemic *Edith Hardcastle, Ph.D. (Assistant Professor of Biology, University of Southern Indiana)*

Presentation: Status of Maple Leaf Oak, an Arkansas endemic *David Williams Ph.D. (Assistant Professor of Biology, Okaloosa-Walton Community College)*

Presentation: Invasive Prickly Nightshades and Cogongrass *Charles T. Bryson Ph.D. (Research Botanist, USDA-ARS, Southern Weed Science Research Unit)*

Presentation: Aquatic and Wetland Weeds of Arkansas and the Southeastern United States *Brett Serviss Ph.D. (Assistant Professor of Biology, Henderson State University)*

Presentation: Ongoing Invasive Species Survey and Eradication Projects *Paul Shell (Plant Inspection and Quarantine Manager, Arkansas State Plant Board)*

Rare and Invasive Plants of Arkansas Conference

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NOTE: Inquiries about the conference itself should be directed to Dr. Johnnie Gentry at the U of A Herbarium, NOT to the UA Division of Continuing Education. Call 479.575.4372 or email gentry@uark.edu.

Notes from the Editor

by Theo Witsell

Not much space this time. Mainly I wanted to thank a few people for all their work and helpful advice regarding this issue, especially Don Crank, Mary Ann King, Linda Gatti-Clark, Jim Peck, Carl Amason, John Pelton, George Johnson, Eric Sundell, Brett Serviss, Johnnie Gentry, Carl Slaughter, and my wife Tanya. I'd also like to thank the Arkansas Native Plant Society for giving me a generous computer budget. I have purchased a new ANPS machine, complete with scanner, printer, and graphics software. Unfortunately, I didn't have time to explore the new software for this issue, but the Fall issue should be a little more snazzy.

I am also looking into posting the entire Claytonia on the web and distributing it electronically to those members who would prefer it. Paper copies would still be available as well.

One last thing... an update on the search for the missing narrow-leaved milkweed (*Asclepias stenophylla*) [see article last issue]. Dr. Eric Sundell and I visited the general area where Dwight Moore made his 1953 Carroll County collection and found a large, gated residential development (Holiday Island). Lots of former glades, but no *A. stenophylla*. Much potential habitat remains to be searched, but it is still missing despite our modest two day effort. Keep your eyes peeled if you are in that area!

Upcoming Events

Not much to report this time around. I know there must be more going on than this! Send in upcoming field trips, workshops, conferences, etc.

September 26-28, 2003: ANPS Fall Meeting, Paris, Arkansas -- Annual Plant Auction, field trips to Mt. Magazine, Stump Carl Amason, etc. See info this issue!

October 4, 2003: Slide Show "Fall Wildflowers of the Ouachitas" - Theo Witsell & John Pelton, Wildwood Park, Little Rock, Arkansas-- Theo will give the talk using John's magnificent slides. Part of the Wildwood speaker series. Starts at 10:00.

October 23-24, 2003: Rare and Invasive Plants of Arkansas Conference, Fayetteville, Arkansas -- Includes presentations from regional speakers, specimens of rare and invasive plants, field trip, and more. See info this issue!

PLEASE SEND SUBMISSIONS/SUGGESTIONS TO:

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anpsclaytonia@yahoo.com

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Please fill in the information form on the opposite side of this page and send it with your renewals, applications for membership, changes of name, address, email, or telephone numbers to the address given on the form: **[Not to the editor]**. Thank you.

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The purpose of the Arkansas Native Plant Society is to promote the preservation, conservation, and study of the wild plants and vegetation of Arkansas, the education of the public to the value of the native flora and its habitat, and the publication of related information.

CLAYTONIA

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Newsletter of the Arkansas Native Plant Society

Summer/Fall 2003

CLAYTONIA

The Newsletter of the Arkansas Native Plant Society

Vol. 23 No. 4

Winter 2003/2004

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Earleaf False Foxglove (*Agalinis auriculata*) Rediscovered in Northwest Arkansas after 120 years!

by Burnetta Hinterthuer



Illustration by Linda Ellis

On September 6th, 2003 the Ozark Chapter of the Arkansas Native Plant Society visited Saunders Heights in Carroll County. Mary Reuter, Wendy Carroll, Linda Ellis, Patrick Pruitt and Burnetta Hinterthuer were present on the excursion. We were hoping to be able to locate species that had not been documented in Carroll County before and provide voucher specimens and location information to Dr. Johnnie Gentry at the University of Arkansas for the Arkansas Flora project.

During the field trip, Linda Ellis, who is a botanical illustrator for the Flora of Missouri update project, became excited when we found a rather nondescript member of the figwort family (Scrophulariaceae). Until I looked carefully, I was not impressed - especially since she mentioned that its habitat in Missouri was buffalo wallows and I didn't think of this limestone bedrock road as being a good place for buffalo to wallow!

But, the base of the leaves flared out into ear-like lobes and identified the plant as *Agalinis auriculata*. Linda knew from her previous work in Missouri that the plant was considered rare on the global level because its habitat had been largely destroyed in the past hundred years. In this case, the plant was growing on limestone bedrock in shallow soil, possibly where a seep is located. There were several in the population.

Although the plant is not spectacular in appearance, its identity excited us. It had not been encountered in northwest Arkansas since F. L. Harvey collected it in Benton County in 1883. Mary Reuter has been trying to get us to Saunders Heights for a couple of years and now we know why.

continued on page 2

The field trip that September day yielded several new county records, but it was the *Agalinis auriculata* that really excited us. For several years, the Arkansas Natural Heritage Commission has been on the lookout for this plant in northwest Arkansas, knowing of the collection from 1883. It has been found in southwestern Arkansas in the blackland prairies and in prairie habitat in the Missouri Ozarks, so they had expected (and hoped) to rediscover it in northwest Arkansas. Finding a plant that has been unseen in an area for so long definitely creates a sense of awe. We do plan follow-up trips to this site in the coming year. Looking at a topographic map, we noticed other interesting peaks in Carroll County and can't help wondering what else is there. If you would like to become a member of the Ozark Chapter of ANPS or request a newsletter, contact Mary Reuter at 870-423-2498 or email reuter@bscsystems.com

More Notes on *Agalinis auriculata*

by Theo Witsell

I was most excited when I received emails from Linda and Burnetta telling me of their exciting rediscovery (after 120 years!) of this very rare species in the Arkansas Ozarks. As Burnetta mentioned, it had been missing from northwest Arkansas for a long time and that makes this discovery particularly interesting. Even more interesting, perhaps, is the unusual biology and ecology of this species. Earlier this fall I attended the Natural Areas Association Conference in Madison, Wisconsin. There was a paper given there that taught me a lot I didn't know about *Agalinis auriculata*.

Agalinis auriculata has gone by many different names and has been in several different genera in the figwort family (Scrophulariaceae). It has been called *Tomanthera auriculata*, *Agalinis auriculata*, *Gerardia auriculata*, and *Otophylla auriculata*. It is a hemiparasite, which means that it can survive on its own, but does much better when it forms underground connections to the roots of a host plant, partially sucking nutrients and water from the host, and partially getting them on its own. According to the research presented at the NAA Conference, large, robust plants with many flowers were found to have connected to host plants, and smaller plants with only a few flowers were found to be without hosts. *Agalinis auriculata* has been found to have a narrow range of host plants, all of which are members of the sunflower family (Asteraceae) and all of which are prairie and glade species. Genera found to function as hosts include the rosinweeds (*Silphium* spp.) and the native sunflowers (*Helianthus* spp.).

Another thing I learned at the NAA Conference is that *A. auriculata*, and the entire genus *Agalinis*, has been taken out of the figwort family altogether. The latest classification, based on molecular genetics, puts these plants in the

broomrape family, the Orobanchaceae. This makes sense ecologically, considering the number of parasitic species in the Orobanchaceae.

In Arkansas, there are several populations known from the chalk barrens and blackland prairies of southwestern Arkansas (Hempstead County) and it is presently known in southwest Missouri from Newton, Cedar, and St. Clair Counties. The association with buffalo wallows is indicative of its dependence on prairie habitat, but the dry rocky glades of the Ozark Plateau are also suitable. Both habitats are rare today. The prairies are all but gone now, having been converted to fescue pastures, plowed for beans, or covered over by urban sprawl. The glades are at risk too, from development, but also from succession to dense cedar thickets in the absence of fire from the landscape. Whatever name you call the plant, and whatever family you want to put it in, this was a tremendous find! Congratulations and thanks to the Ozark Chapter of the Arkansas Native Plant Society!



Agalinis auriculata in Carroll County, Arkansas! Photo by Linda Ellis.

HAVE YOU SEEN THIS PLANT IN ARKANSAS?

If so, please call the Arkansas Natural Heritage Commission at 501.324.9615 or email theo@arkansasheritage.org.

A Bipolar Orchid Hunt (in a Shakespearean Manner)

by Carl Slaughter

In June of this year David McAdoo in North Carolina called me and asked if I would like to photograph the orchid *Spiranthes longilabris* in the Green Swamp of southern North Carolina. And, by the way, he could give me a map to the location of the Shadow-Witch Orchid in northern South Carolina. Mania commenced. Of course I would. The time for the outing was set for November the first. Jannene made the travel plans, first to the orchid sites, then to Charleston, South Carolina to see the city.

October the 25th, phone call, come now, the orchids are blooming. Oh depression! Will we, after all that driving, get there too late? We leave the next day, cutting the driving time from three days to two. Depressed all the way.

I go straight to the swamp. I will go to the motel later. I walk for two hours, in the area that I thought they would be. No *longilabris*. Depression deepens. Are they gone, or am I in the wrong place? Due to the sudden departure I did not put David's phone number in the car. Depression very deep. We check into the motel and begin to mope. I suddenly remember that I have some information that just might have his phone number listed. It does! Depression lessens, mania returning. I call David. I am looking in the wrong place. Frank, from South Carolina, was there the day before and had flagged all the orchids. The mania makes it hard to sleep that night.

We arrive at the pine savanna early the next morning. The blue flags and *Spiranthes* are found and the photos are made. I am feeling very good at this point. Now for the *Ponthieva racemosa*, the Shadow-Witch.

The next morning we arrive at the site of the Shadow-Witch. As I look down the side of the embankment I see 150-200 of the orchids, ALL IN SEED. Depression returns. Then I see a single plant in full bloom and perfect. Photos are taken and I am again euphoric.

The next day, while taking pictures of Fort Sumpter, I discovered that my camera's ASA was set at 6 and I was using 100 ASA film. For my purposes all of the pictures that I had taken were useless. Depression returns. I had made too many mistakes on this trip. Most are not being mentioned in this narrative to avoid embarrassment. Am I becoming senile? After a brief check I determined that I do not have dementia. It is no consolation to know that all of the mistakes are the result of stupidity and not from a biochemical or physical cause.

At this point I felt as if I was reliving MacBeth's dagger scene, paraphrased here – "Is this an orchid I see before me? Its petals before my hand? Come, come let me touch thee. I see thee still yet I have thee not. Are thy not a beautiful flower sensible to feeling as to sight? Or are thy just a flower of the mind? A false creation perceived by the heated depressive brain?"

To make a long story short, I corrected the ASA, retraced the 150 miles, rephotographed the orchids, and returned home with a euphoric mind.

There are two morals in this story. The first is if your outing ends in a manic state, it was a success. The second is that it is good to share a mania, but it is even better to have help in sharing a depression.



Ponthieva racemosa (Walt.) Mohr.
The Shadow-Witch

No Dam For the Eleven Point

by Linda Ellis

Some of you may have heard recently of yet another attempt to start a dam project on the Eleven Point River. Channel KAIT 8 in Jonesboro, AR reported on Oct. 2, 2003 that an old debate is resurfacing in Randolph County over a river described as "possessing unique beauty". Back in the late 1950's, several area businessmen lobbied for building a dam but received strong opposition from area residents and environmentalists.

This most recent attempt at a Water Valley dam project was for a reservoir in Randolph County that would back a lake up into Missouri. The Pocahontas chamber of commerce set up a town meeting to determine the degree of interest in the project. A local opposition group lead by Joe and Ellen Hansen organized concerned local residents and attended the meeting in force. The Chamber also received e-mails from people all over the United States opposing this dam.

Oct. 7th, the Chamber voted unanimously not to pursue the reviving of this project. Six reasons were giving for this decision:

1. Such projects were deauthorized in 1977 by Congress and no funding was available.
2. The Army Corps of Engineers doesn't build lakes for recreational reasons.
3. Such a project wouldn't even make it through the first phase of an environmental study because of the number of endangered species on the Eleven Point.
4. This river is already listed as a Wild and Scenic waterway.
5. Other reservoirs in the area have already eliminated a large number of clear-water streams.
6. The Eleven Point offers "recreation and aesthetic values" that cannot be duplicated once destroyed.

The Hansens and their opposition group have agreed to stay together and be vigilant in case this idea comes up again. In a highly karst region such as this area of Arkansas and Missouri, a project like this would be questionable in the very least. Instead of destruction of the environment, other ways need to be found to help the area economy. Eco-friendly tourism and festivals to highlight the area's history will be discussed by local residents, opposition groups and businessmen. If you have ideas to help the region, contact the Randolph Co. (Pocahontas) Chamber of Commerce.

Plants of Christmas Time

by George Sinclair

Mistletoe is one of the traditional plants of Christmas time, along with holly and ivy. Arkansas has only one species of mistletoe, *Phoradendron serotinum*, a small evergreen, parasitic shrub that grows on the limbs of several hardwood trees. It produces its own food as other green plants do, but robs its host of water and minerals in the process. The male and female flowers are on separate plants, appearing as small yellowish bumps near the ends of the branches. The fruits are small, round, white, sticky berries and are considered to be toxic. The leaves are small (two inches) and the branches and stems are brittle. Birds and mammals eat the fruit.

Most of the traditions around mistletoe developed in England and Europe. The Christmas custom of hanging mistletoe (and kissing under it) may have its origin in a range of traditions, the most obvious being that mistletoe is a fertility symbol. As an evergreen parasitic plant on its deciduous host, it can be a symbol of the life-force/fertility of the tree through the winter.

The Druids of ancient Britain valued mistletoe as a sacred plant, which held magical powers. They were said to hold the mistletoe of oaks as especially valuable. Oak itself was a magical tree. Combine this with the fact that mistletoe is fairly rare on the oak in Britain, then it is easy to see why oak mistletoe would be highly valued. Mistletoe was seen as a plant of peace (possible origin of the kissing tradition), and was harvested during rituals that involved golden sickles, white bulls, and sheets to stop the cut mistletoe from touching the ground (otherwise it would lose its power).

Arkansas has six species of native holly: Carolina holly (*Ilex ambigua*), deciduous holly (*Ilex decidua*), yaupon holly (*Ilex vomitoria*), American holly (*Ilex opaca*), Georgia holly (*Ilex longipes*), and winterberry (*Ilex verticillata*). All have male and female flowers on separate trees.

American holly is the most familiar because of its use as an ornamental and the use of the foliage with bright red berries as a Christmas decoration. American holly is a tree of the lowlands and does not seem to grow well above the elevation of 240 feet above sea level. Deciduous holly is also used as a Christmas decoration. When the leaves fall off in the fall this shrub is very showy with red berries and makes a great Christmas decoration.

An Annotated Checklist of the Orchids of Arkansas

Dr. George Johnson, Arkansas Tech University

With the *Checklist of the Vascular Plants of Arkansas* nearing completion, the known diversity of many families of the state's flora can now be expressed with confidence; in this case, the Orchidaceae, the orchid family. Using Ed Smith's *An Atlas and Annotated List of the Vascular Plants of Arkansas* (2nd edition, 1988) as a starting point, a thorough review of the literature, field studies, and the examination of over 1100 herbarium specimens at herbaria within and from outside of the state has documented for Arkansas 43 orchid taxa, representing 18 genera, 36 species, 4 infra-specific taxa, and 3 hybrids. With continued fieldwork, it is very likely that additional taxa of orchids may be documented for the state, especially along Arkansas' borders with Louisiana, Mississippi, Oklahoma and Texas.

All taxa are native except for one species, *Epipactis helleborine*. *Spiranthes cernua* and *Spiranthes vernalis* are the most widespread taxa, occurring in 48 and 51 counties respectively. *Cypripedium reginae*, *Cypripedium parviflorum* var. *parviflorum* X *Cypripedium parviflorum* var. *pubescens*, *Epipactis helleborine*, *Liparis loeselii*, *Platanthera flava* var. *herbiola*, *Platanthera nivea*, and *Spiranthes cernua* X *Spiranthes odorata* are the least widespread taxa, each occurring in a single county. Twenty of the orchid taxa known for the state (46.5%) are of conservation concern and are tracked by the Arkansas Natural Heritage Commission. Five taxa of orchids have been erroneously reported for the state, three of which have previously been excluded. *Calopogon tuberosus* var. *simpsonii* and *Spiranthes magnicamporum* are excluded here for the first time.

Nomenclature for all taxa follows that of the *Flora of North America* (Volume 26). Where nomenclature differs from that of Smith's *Atlas* (1988) or Smith's *Keys* (1994), the names used by Smith are listed as synonyms in brackets. Many common names exist for each orchid that occurs within the state. Those listed here are considered to be the "primary" common name and will appear in the Checklist.

Annotated Checklist:

- Aplectrum hyemale* (Muhl. ex Willd.) Nutt.; Adam-and-Eve.
Calopogon oklahomensis D. H. Goldman; Oklahoma grasspink; of Conservation Concern.
Calopogon tuberosus (L.) Britton, Sterns, Poggenb. var. *tuberosus*; tuberous grasspink; of Conservation Concern. [*C. tuberosus* (L.) Britton, Sterns, Poggenb.]
Corallorhiza odontorhiza (Willd.) Poir. in F. Cuvier var. *odontorhiza*; autumn coral root. [*C. odontorhiza* (Willd.) Poir. in F. Cuvier]
Corallorhiza wisteriana Conrad; Wister's coral root.

- Cypripedium kentuckiense* C. F. Reed; Kentucky lady's-slipper; of Conservation Concern.
Cypripedium parviflorum Salisb. var. *parviflorum*; southern small yellow lady's-slipper. [*C. calceolus* L. var. *parviflorum* (Salisb.) Fernald]
Cypripedium parviflorum Salisb. var. *pubescens* (Willd.) O. W. Knight; southern large yellow lady's-slipper. [*C. calceolus* L. var. *pubescens* (Willd.) Correll]
Cypripedium reginae Walter; showy lady's-slipper; of Conservation Concern.
Cypripedium parviflorum Salisb. var. *parviflorum* X *C. parviflorum* Salisb. var. *pubescens* (Willd.) O. W. Knight; hybrid southern yellow lady's-slipper.
Epipactis helleborine (L.) Crantz; broad-leaved helleborine orchid; non-native, introduced from Europe.
Galearis spectabilis (L.) Raf.; showy orchis.
Goodyera pubescens (Willd.) R. Br. in Aiton & W. T. Aiton; downy rattlesnake plantain.
Habenaria repens Nutt.; water-spider orchid; of Conservation Concern. [*Platanthera repens* (Nutt.) A.W. Wood]
Hexalectris spicata (Walter) Barnhart var. *spicata*; crested coral root; of Conservation Concern. [*H. spicata* (Walter) Barnhart]
Isotria verticillata (Muhl. ex Willd.) Raf.; large whorled pogonia.
Liparis liliifolia (L.) Rich. ex Lindl.; large twayblade orchid.
Liparis loeselii (L.) Rich.; Loesel's twayblade orchid; of Conservation Concern.
Listera australis Lindl.; southern twayblade orchid.
Malaxis unifolia Michx.; green adder's mouth orchid.
Platanthera ciliaris (L.) Lindl.; yellow fringed orchid.
Platanthera clavellata (Michx.) Luer; small green wood orchid.
Platanthera cristata (Michx.) Lindl.; yellow crested orchid; of Conservation Concern.
Platanthera flava (L.) Lindl. var. *flava*; southern tubercled orchid; of Conservation Concern. [*P. flava* (L.) Lindl.]
Platanthera flava (L.) Lindl. var. *herbiola* (R. Br.) Luer; northern tubercled orchid; of Conservation Concern.
Platanthera lacera (Michx.) G. Don in Sweet; green fringed orchid.
Platanthera nivea (Nutt.) Luer; snowy orchid; of Conservation Concern.
Platanthera peramoena (A. Gray) A. Gray; purple fringeless orchid; of Conservation Concern.
Platanthera Xchannellii Folsom; Channell's fringed orchid; of Conservation Concern. [*P. ciliaris* (L.) Lindl. X *P. cristata* (Michx.) Lindl.; *P. Xchapmanii* (Small) Luer, mis-applied]
Pogonia ophioglossoides (L.) Ker Gawl.; rose pogonia; of Conservation Concern.

Spiranthes cernua (L.) Rich.; nodding ladies'-tresses. [*S. cernua* (L.) Rich. var. *cernua*]
Spiranthes lacera (Raf.) Raf. var. *gracilis* (Bigelow) Luer; southern slender ladies'-tresses.
Spiranthes lacera (Raf.) Raf. var. *lacera*; northern slender ladies'-tresses; of Conservation Concern.
Spiranthes lucida (H. H. Eaton) Ames; shining ladies'-tresses; of Conservation Concern.
Spiranthes odorata (Nutt.) Lindl.; fragrant ladies'-tresses; of Conservation Concern. [*S. cernua* (L.) Rich. var. *odorata* (Nutt.) Correll]
Spiranthes ovalis Lindl. var. *erostellata* Catling; northern oval ladies'-tresses; of Conservation Concern.
Spiranthes ovalis Lindl. var. *ovalis*; southern oval ladies'-tresses; of Conservation Concern.
Spiranthes praecox (Walter) S. Watson in A. Gray et al.; giant ladies'-tresses; of Conservation Concern.
Spiranthes tuberosa Raf.; little ladies'-tresses.
Spiranthes vernalis Engelm. & A. Gray; grass-leaved ladies'-tresses.
Spiranthes cernua (L.) Rich. X *S. odorata* (Nutt.) Lindl.; hybrid nodding-fragrant ladies'-tresses.
Tipularia discolor (Pursh) Nutt.; crane fly orchid.
Triphora trianthophora (Sw.) Rydb. in Britton subsp. *trianthophora*; three birds orchid. [*T. trianthophora* (Sw.) Rydb.]

Excluded Taxa:

Calopogon tuberosus (L.) Britton, Sterns, Poggenb. var. *simpsonii* (Small) Magrath; Simpson's grasspink. This variant of the species was listed in Smith's Keys (1994). The plant was a robust, mis-identified specimen of *C. tuberosus* var. *tuberosus* at UARK from Saline County (Moore, D.M., 6 Jun. 1950, 50188). Var. *simpsonii* is restricted to Florida (Goldman et al. 2002 in FNA Vol. 26).
Cypripedium candidum Muhl. ex Willd.; white lady's-slipper.
Platanthera leucophaea (Nutt.) Lindl.; eastern prairie fringed orchid.
Spiranthes laciniata (Small) Ames; lace-lipped ladies'-tresses.
Spiranthes magnicamporum Sheviak; great plains ladies'-tresses. The listing of this taxon for Little River and Sevier Counties (Singhurst et al. 2002 in Castanea) is based on mis-identified specimens at BAYLU (Little River County, Holmes, 17 Oct. 1999, 10720, Singhurst and Baldrige; Sevier County, Holmes, 17 Oct. 1999, 10730, Singhurst and Baldrige). Dissection of flowers indicated that these plants were actually *S. cernua*.

George P. Johnson
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Editors Note: Needless to say, if you know of locations of any of the excluded taxa in Arkansas, contact Dr. Johnson. If you know of the location of any of the taxa of conservation concern please contact the editor or the Arkansas Natural Heritage Commission.

New Grand Prairie Publication

New Grand Prairie Publication

Located in the Mississippi River Delta of eastern Arkansas, the **Grand Prairie** covered approximately 900,000 acres, with 320,000 acres consisting of tallgrass prairie. Although prairies flourished on the Grand Prairie for thousands of years, very little remains today. As land was cleared for rice production in the early 20th century, much of the original Grand Prairie landscape was lost. Tallgrass prairies, and a variety of other natural communities, are now very rare and limited to small fragments. As a result of habitat destruction, a number of plant and animal species have been eliminated from the Grand Prairie, with many more clinging to the very few patches of suitable habitat that remain. Even though much has been lost, the potential currently exists for large areas of prairie to be restored to some locations across the region.

The Arkansas Natural Heritage Commission (ANHC), in partnership with the U.S. Fish and Wildlife Service (USFWS), has produced a booklet titled **The Grand Prairie of Arkansas: past, present, and future**. The booklet details the natural history and status of the Grand Prairie of eastern Arkansas and includes a map depicting the original distribution of prairie across the region. The booklet also details prairie restoration activities currently being conducted by the ANHC, USFWS, and other federal and state agencies. For a free copy of the booklet call the ANHC at 501.324.9619 or e-mail your mailing address to arkansas@naturalheritage.org.

Invasive Plant Species of Arkansas Field Guide Available

The Field Guide to the Non-Native Invasive Plants of Arkansas is now available. This guide was compiled and edited by Jude Jardine of the Arkansas Native Plant Society and contains an illustrated glossary and factsheets for some of the worst nonnative invasive plant species in Arkansas. It is illustrated with color photographs and includes detailed species accounts with identifying characters, life history information, range and habitat information, and strategies for control.

The guide is available for \$10 to ANPS members and \$12 for non-members. Copies can be obtained from Jude Jardine / 206 Branch St. / Lonoke, AR 72086. Call Jude for more info at (501) 676.5535 or email: jardinejk@earthlink.net

Tallgrass Prairies in Arkansas: Part I

By Theo Witsell

The tallgrass prairies of North America are one of the most heavily-impacted ecosystems in the world. Their story is a sad one, marked by massive destruction and the wholesale decimation of the landscape. More than 99% of the North American tallgrass prairie has been destroyed. The scattered remnants are priceless records of what was (not so long ago), and they are the seedbanks (literally) for the future survival of the prairie. Many people outside of Arkansas, and a good many who live here, are surprised to hear that there are tallgrass prairies in the state. We do have them, though, and they are treasure troves of biodiversity! This will be the first installment of a several part article on the prairies of Arkansas. To begin, let's discuss just what makes a tallgrass prairie a tallgrass prairie and take a look around the state at the different prairie regions.

All sorts of naturally treeless areas get called "prairies", but here we will focus on those areas dominated by four species of native, warm season grasses. These grasses, sometimes collectively referred to as "the big four" are big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), Indian

grass (*Sorghastrum nutans*), and switchgrass (*Panicum virgatum*). As the name implies, they are tall grasses—reaching more than 8 feet on a good site. They are the dominant grasses in the tallgrass prairies of Arkansas and serve as a sort of backbone to the prairie ecosystem.

So, why is the prairie prairie? The answer usually has to do with the amount of water available to plants and, in Arkansas, with the properties of the soil. The prairie regions of the midwest United States receive low amounts of rainfall and this is partially responsible for the prevalence of prairie there. Arkansas, by contrast, is fairly well-watered. The secret to our prairies typically lies in an impermeable clay (or rock) layer in the subsoil not far under the surface of the ground. This layer keeps water from penetrating very deep and becomes very dry during the summer. These conditions, in combination with frequent fires, give grasses and forbs a competitive advantage over most woody plants.

Arkansas has (or had) five major regions of tallgrass prairie. The floristic makeup of these prairie regions is similar. They often share the same dominant species, but differ remarkably in which other species are present or absent. Our prairies also grade into several other natural communities, most notably glades, savannas, and open woodlands. These communities often share many of the same species and species associations with the prairies.

Prairies typically have their highest diversity in two families of plants; the Poaceae (grasses) and the Asteraceae (the plants in the sunflower family). Many of these plants are commonly referred to as "prairie species" and occur primarily in prairie and prairie-like habitats. They can tolerate summer drought and can withstand or even benefit from frequent fires which burn them down to the ground. An interesting fact about prairie plants is that in many cases, the majority of the plant's biomass is beneath the soil, not above it. In addition to these families, hundreds of species from other families are at home on the prairie, with strong representation from the legumes (Fabaceae), mints (Lamiaceae), sedges (Cyperaceae), mustards (Brassicaceae), milkweeds (Asclepiadaceae), the carrot family (Apiaceae), the figwort family (Scrophulariaceae), and many others. We'll explore the plants more in future issues.

For now, in the interest of space, here is a very brief overview of the five major prairie regions of Arkansas.

I. The Grand Prairie

Major Counties: Lonoke, Prairie, Arkansas

The Grand Prairie region is the largest of Arkansas' prairie

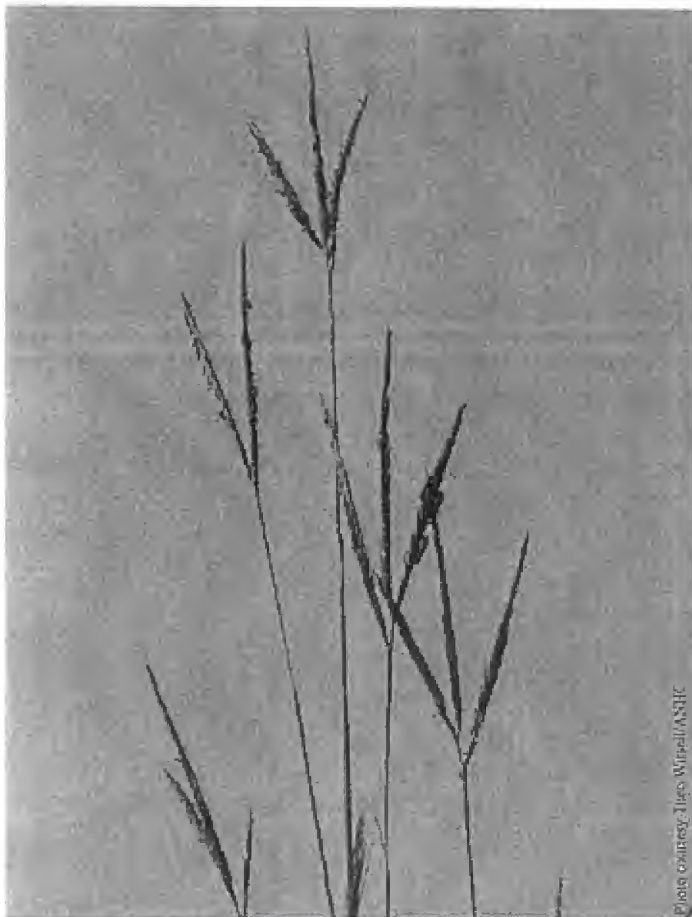


Photo courtesy, Theo Witsell/ANHC

Big bluestem (*Andropogon gerardii*) seedheads. Prairie County.

regions. It covers more than 900,000 acres in eastern Arkansas on an area of relatively high ground known as the Grand Prairie Terrace. Of this area, approximately 400,000 acres consisted of open grassland prior to settlement by Europeans. The balance consisted of savanna, upland hardwood forest, shrubby "slash" woodlands along headwater streams, herbaceous wetlands, and bottomland hardwood forest along major streams. Of the 400,000 acres of grasslands, only about 430 acres have survived the plow.

Remnants to visit include:

- Railroad Prairie Natural Area** (Arkansas Natural Heritage Commission)
- Roth Prairie Natural Area** (Arkansas Natural Heritage Commission)
- Konecny Prairie Natural Area** (ANHC)
- Downs Prairie Natural Area** (ANHC)

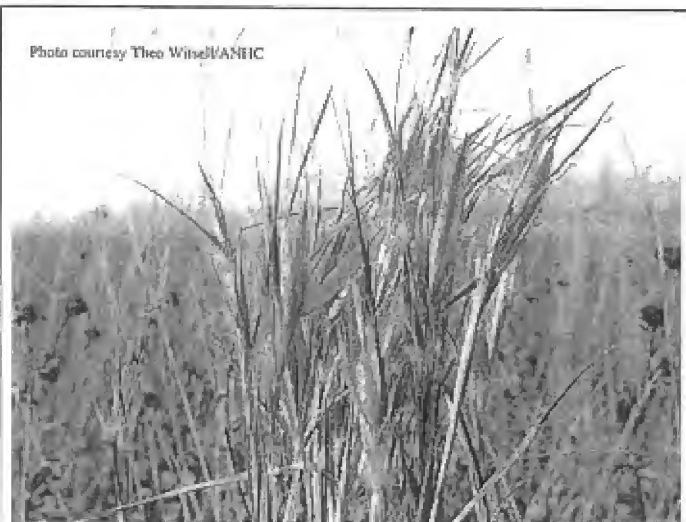


Photo courtesy Theo Wine/ANHC

Elliott's bluestem (*Andropogon gyrans*) is one of the less common grasses of the tallgrass prairie. It is sometimes called bird-of-paradise grass because the leafy bracts subtending the inflorescence makes it resemble the tropical plant by the same name. Railroad Prairie Natural Area. Prairie County.

II. The Arkansas Valley Prairies

Major Counties: Franklin, Sebastian (and scattered eastward)

The Arkansas Valley prairies occur from Conway west all the way into Oklahoma. These prairies typically occur over a shaley clay substrate. Remnants to visit include:

- Jewel Moore Prairie Preserve** (University of Central Arkansas Campus, Conway)
- Cherokee Prairie Natural Area** (ANHC & The Nature Conservancy)
- H. E. Flanagan Prairie Natural Area** (ANHC)
- Presson-Oglesby Preserve** (The Nature Conservancy)

III. The Ozark Prairies

Major Counties: Washinton, Benton, Boone

The Ozark prairies typically occur over calcareous clay soils derived from limestone and/or dolomite. Large prairies occurred around Fayetteville, Rogers, Siloam Springs, and Harrison. Remnants to visit include:

- Baker Prairie Natural Area** (ANHC & The Nature Conservancy)
- Searles Prairie Natural Area** (ANHC)
- Chesney Prairie Natural Area** (ANHC)

IV. The Blackland Prairies

Major Counties: Clark, Hempstead, Howard

The Blackland Prairies are associated with dry, calcareous soils in the southwestern part of the state. Remnants to visit include:

- Terre Noire Natural Area** (ANHC & The Nature Conservancy)
- Grandview Prairie Wildlife Management Area** (Arkansas Game and Fish Commission)
- Columbus Prairie Preserve** (The Nature Conservancy)

V. South Arkansas Prairies

Major Counties: Ashley

The south Arkansas prairies were concentrated in Ashley County and extended into Morehouse Parish, Louisiana. Remnants to visit include:

Sadly, there are no protected remnants in the Arkansas portion of this region but small fragments remain in a transmission line east of Crossett and at the Crossett airport.

PLEASE REMEMBER THAT THESE ARE PROTECTED AREAS. ENJOYMENT AND PHOTOGRAPHY ARE ENCOURAGED BUT DIGGING OF PLANTS AND OTHER UNAUTHORIZED COLLECTION IS STRICTLY PROHIBITED AND PUNISHABLE BY LAW.



Photo courtesy Theo Wine/ANHC

Ashy sunflower (*Helianthus mollis*). Railroad Prairie Natural Area.

Fall 2003 Minutes

ARKANSAS NATIVE PLANT SOCIETY

General Meeting

Saturday, September 27, 2003

The general meeting of the Arkansas Native Plant Society was called to order at 7:25 o'clock, p.m., at St. Joseph's Catholic Church hall in Paris, Arkansas, by the President, Mary Ann King.

SECRETARY'S REPORT: The last sentence of the minutes should be "this" fall. Lana Ewing moved that the report be accepted as amended. Carl Amason seconded. The minutes were approved as amended.

TREASURER'S REPORT: The report was distributed to the members by Treasurer, Barbara Little. Jude Jardine moved that the report be approved; Eric Sundell seconded. The Treasurer's Report was approved.

NOMINATING COMMITTEE: Lana Ewing reported that the Nominating Committee was nominating the following members for offices: Historian, Carl Amason; Secretary, Judy Logan; Publicity, Sue Clark. The nominees were elected by acclamation.

OLD BUSINESS: Johnny Gentry spoke to the group asking for funding for the Flora Project to collect specimens, conduct field work, and to begin work on the Atlas. Dr. Gentry will report on the use of the funds next fall. The Executive Board recommended awarding \$5,000 to Dr. Gentry. Jude Jardine moved that ANPS award the \$5,000; Linda Gatti Clark seconded. The motion passed.

Barbara Little read thank you notes from the Audubon Camp scholarship recipients. Sue Clark moved that \$500 be allotted for children to be sent to the Audubon Camp next summer. Catherine Heppinstall seconded. The motion passed.

Jude Jardine had available 50 binders of the Field Guide to Invasive Non-native Plant Species in Arkansas for members to purchase. The actual cost of the Guide was \$7.79, which included paper, ink, and the binder. Jude estimates that 75-100 more can be printed. She has \$114 left which would probably pay for the ink cost. She will take some to the meeting on invasive plants in October. The information concerning the Guide will be put on the ANPS website and in the Claytonia.

The motion was made by Clint Soward that members pay \$10.00 for the Guide and \$12.00 for non-members. Catherine Heppinstall seconded. The motion passed. Everyone is responsible for obtaining and paying for additional updates from Jude.

NEW BUSINESS: Barbara Little reported on a talk she had with Donna Gardner, the Plants Manager at the Arkansas Highway Department. She is developing an incentive program to reward people doing a good job on their roadside protection of natives. There is a need to develop a communication system with people who do construction and maintenance on the highways, and a need for a rescue program. Barbara would like to receive information from people and advice on incentives.

Mary Ann King announced that Jasper, Arkansas, is being considered for the Spring, 2004, meeting and Camden for the Spring, 2005, general meeting.

The Sunday morning field trip will be at the Cherokee Prairie Natural Area about 20 miles west of Paris, out of Charleston, Arkansas. Interested members will meet at Caulksville at the gas station at Highways 22-23 at 8:30 A.M.

There being no further business, the meeting was adjourned at 9:00 P.M.

Respectfully submitted,
Sue Clark, Secretary



Eupatorium perfoliatum L.
boneset

University of Tennessee Herbarium and Dept. of Botany Threatened

Editors note: Here we go again! The following letter was received on December 23, 2003. As we learned in Arkansas last summer, sometimes it takes public support to save herbaria and botany programs. Please consider taking a few minutes to help out by writing a letter.

Colleagues:

The possible demise of the herbarium at Iowa seems to be another symptom of academic malnutrition that is destined to a state of starvation. We are heading toward a third world status by crippling our informational foundations in whole plant systematics. This trend is infecting all programs where whole plant science is being replaced by emphasis on structural and mechanistic [mostly molecular] aspects of plants.

This letter is to make you aware of another grave situation that threatens the existence of the Department of Botany at The University of Tennessee, Knoxville. For reasons not totally known, the Botany Department has been placed on a university list for review and consideration for dissolution. This decision has been spun from the upper administration, to identify programs and departments within the university that don't meet selected criteria for productivity. In the case of Botany, we do not meet the quota of undergraduate majors, among other criteria. Since we are a department nested in a Division of Biology, we are not competitive with Microbiology, Ecology and Evolutionary Biology, and Biochemistry/Cellular and Molecular Biology. These other departments appear more productive because they benefit from higher numbers of majors; many of which are preparing for pre-professional, health careers [Medical, Dental, Pharmacy, etc.]. Hence it is unusual for such motivated students to select a Botany major for their undergraduate degree.

It is my personal belief, and shared by many colleagues, that a comprehensive university like Tennessee, will be self-abasing by dumping its Botany Department. It is a poor investment by the powers of upper administration to assure [guarantee] that a presence of strong plant sciences will continue at Tennessee by distributing faculty into other surviving departments. The core and heart of a centralized botanical faculty will be fragmented; and it is likely that attrition will result as faculty retire, or relocate, and their positions will be filled by other sorts. Another key element is the fate of the Herbarium and its staff. While we have been told [promised] that no faculty or key staff will be furloughed by a reorganization, that may be no more than a belief in faith.

As most of us are veterans of administrative chess, we expect that a decision to dissolve Botany has already been made. And now we are only stepping through the process to legitimize and validate the decision.

However, I invite any of you who wish to join the resistance to write a letter of concern that addresses the irreversible consequences of loss to the national and international community of Plant Scientists. In the least, I would want my administrators to have to read the written word of concerned colleagues in the face of their decision.

If you choose to voice your concern, send a letter to:

Dr. Stuart Riggsby, Dean
College of Arts and Sciences
Alumni Memorial Building
University of Tennessee
Knoxville, TN 37996

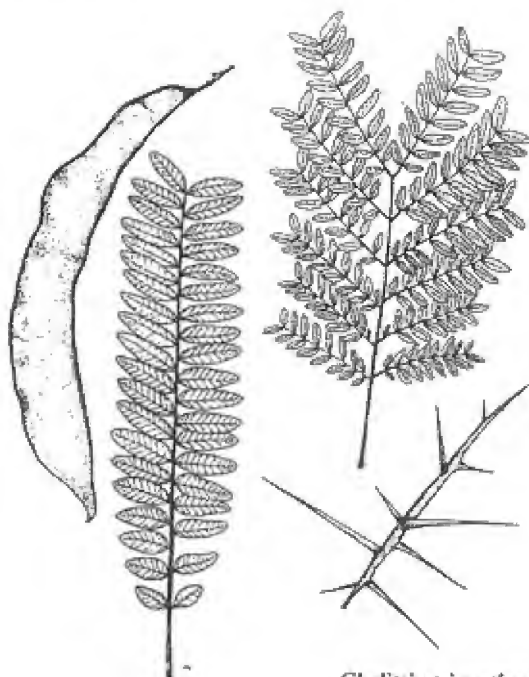
and a copy of that letter to:

Dr. Edward Schilling, Head
Department of Botany
437 Hesler Biology Building
University of Tennessee
Knoxville, TN 37996

just to keep everyone honest.

Respectfully,

David K. Smith
Associate Professor and Curator
Department of Botany
UT-Knoxville
dsmith22@utk.edu



Gleditsia tricanthos L.
honeylocust

Mount Magazine Field Trip Report

by Scott Star

On a sunny, breezy, unseasonably cool September Saturday, about 30 native plant enthusiasts explored both south- and north-facing slopes just below the summit of Mt. Magazine, the highest peak in Arkansas. Eric Sundell and Carl Amason led the way, identifying plants and interpreting environments for the benefit of experienced and novice plant watchers.

The south facing exposure was a narrow, sun-drenched bluff prairie, or glade, located just below the foundation of the original Mt. Magazine Lodge. A portion of the area had been mowed at least once during the season. This, thin, blufftop soil and droughty conditions so close to the mountain's peak, may explain the stunted profile of a number of species.

Herbaceous plants observed on this site included Indian tobacco (*Lobelia inflata*), blue sage (*Salvia azurea*), flowering spurge (*Euphorbia corollata*), whorled-leaf milkweed (*Asclepias verticillata*), aromatic aster (*Aster oblongifolius*), rock pink (*Talinum calycinum*), nailwort (*Paronychia virginica*), nodding onion (*Allium cernuum*), wild petunia (*Ruellia* sp.), Canada and common goldenrod (*Solidago canadensis* and *S. petiolaris*) and, in the shade of an eastern redcedar, white snakeroot (*Eupatorium rugosum*).

Three of the big four tallgrass prairie grasses, Indian grass (*Sorghastrum nutans*), little bluestem (*Schizachyrium scoparium*), and big bluestem (*Andropogon gerardii*) were also found on this site. Besides the eastern redcedar (*Juniperus virginiana*), woody species included blackgum (*Nyssa sylvatica*), Sumac (*Rhus* sp.), post oak and black oak (*Quercus stellata* and *Q. velutina*), and an ancient downy serviceberry (*Amelanchier arborea*).

A short drive took the group to the top of a similar ridge and over to a north-facing slope. Just beyond the parking area, along the wooded edge, we found hawthorn (*Crataegus* sp.), blackhaw (*Viburnum prunifolium*), possumhaw (*Ilex decidua*), Mexican plum (*Prunus mexicana*), American hophornbeam (*Ostrya virginiana*), and climbing dogbane (*Trachelospermum difforme*).

Along the main trail, heading off to the west, ladies' tresses orchid (*Spiranthes* sp.) were numerous and one Indian pipe (*Monotropa uniflora*) was discovered. A recently discovered WPA era staircase dropped off the trail to the northeast. Various ferns were perched in damp pockets and wild hydrangea (*Hydrangea arborescens*) cascaded down the rocky slope. Further along, hundreds of white snakeroot (*Eupatorium rugosum*) dotted the steep, north slope above a trail that traversed the mountain. In open areas wreath

goldenrod (*Solidago caesia*), dittany (*Cunila origanoides*), and spreading aster (*Aster patens*) were sited.

Plant Identification by E-mail

Sponsored by T. M. Sperry Herbarium, Pittsburgh State University.

A "modern" way to stay sharp on plant identification is now available by e-mail. I had been playing around with some of my photos and sending them to friends to see if they could ID them for fun. I soon realized that my initial "test group" really enjoyed trying to ID a plant from a photo by e-mail. The idea is not to make anyone a professional taxonomist, but to give the mostly general public the opportunity to receive a plant photograph and then scan the field guides to see if they can identify it. And with winter coming on, the photos are a reminder of what to look forward to for 2004 and beyond. It is strictly for fun and learning. Each week, generally on Sunday, I provide a photo with a few characteristics, and sometimes with habitat and/or location. The plants are mostly common species from the central midwest. Some examples sent thus far include the Michigan Lily, Woundwort, and Ozark Wake Robin. When a wildflower photo is sent by e-mail for the week, I generally add a few comments about the previous week's photo. Each month, I put everyone's name that responded, right or wrong in the ID, in a bowl and draw one name. I then print off a 8 x 10 photo of a wildflower and send it to them. So there is some reward for attempting to make an identification. Once someone informs me by e-mail they wish to be placed on the list for identifying wildflower photos, I send them an overview of how the program works. If they send a wrong identification, I will send them a little more information. It may be one or more characteristics, the family name, or possibly the genus name. After they provide me with several attempts that are incorrect, I will give them the correct name. The following is all I request from the E-Mail Plant ID:

Provide a species name and its common name. Provide a scientific family name and the family's common name.

That is it. It is all for fun. Nothing to buy! It is my hope that each participant will enjoy the photos and learn a little more about the species, and of course, sharpen their identification skills.

Dr. Stephen L. Timme
T. M. Sperry Herbarium
slt@pittstate.edu
sltimme@mobill.net

ANPS 2004 Spring Meeting

Jasper, Arkansas

Spring 2004 Arkansas Native Plant Society Meeting

March 26-28, 2004

Jasper, Arkansas – in the Heart of the Ozarks!

Location:

Evening programs and the business meeting will be at the Jasper Senior Center located at 100 E Clark Street. This is located across from the Conoco, two doors down from the Newton County Courthouse in downtown Jasper. 870.446.5531. Email: ncsac@jasper.yournet.com.

Speakers:

Friday. 7 pm. **Phillip Moore** (Botanist with the Arkansas Highway and Transportation Dept.) will speak on "Highway Maintenance, Mitigation, and Enhancement" and Dr. Ron Doran will give a slide show on his experiences living and working among the spectacular scenery and plants in South America.

Saturday. 7 pm. **Dr. Johnnie Gentry**, **Sarah Nunn**, and **Travis Marsico** of the Arkansas Flora Project and the U of A Herbarium will speak on their work on the Flora of Arkansas Project. This will be followed by the ANPS Business Meeting.

Field Trips:

Field trips are planned on Saturday and Sunday morning. Exact times and locations to be announced.

Lodging:

Gordon Motel in Jasper, Arkansas: Phone 870-446-5252
16 rooms available. Call early to reserve.

Riverview Motel in Jasper: 870-446-2616 Rates: \$42-45 + tax per two person occupancy. They have 17 rooms and will hold 6 for us. So call early!

For those who do not mind the 20 minute drive into Harrison, Arkansas. Super Eight has offered to hold rooms for us until mid-February and give us a group rate. There is a continental breakfast that is free with the room. Rates are \$42 + tax/two bed -two person occupancy. Non smoking rooms will be reserved. They have smoking rooms in addition and they will be able to accommodate you, but call early. Phone: 870-741-1741.

In the past, the Ozark Chapter of ANPS has reserved the Buffalo Lodge through the Newton County Resource Council. It is an excellent place to stay. In the main house, 12 people can easily be accommodated. There are four separate bedrooms and a bunk room with five single beds. In addition, the bunkhouse is available and can sleep another 10 people. There are three bathrooms in the main house and an additional bathroom in the bunkhouse. If any of you would like to stay at the Buffalo Lodge, located approximately 8 miles west of Jasper on Hwy. 74, please contact Burnetta at 479-582-0317 or at bhintert_@hotmail.com. After she gets an idea of how many wish to stay there, she can call and reserve the lodge. Do so as soon as possible as the Lodge gets booked up in a hurry. The cost will be less than the motels as the basic cost is \$150/first two people and a \$10 fee for each person over that. Expect the cost to run between \$20-\$25/night. The Lodge includes a large kitchen area and two separate sitting areas in addition to a large front porch. There are also several cabins and bed and breakfast lodges in the area. To check these out, use internet to access: Newton County Chamber of Commerce.

Some Notes on *Chamaelirium luteum*

Carl Amason

Chamaelirium luteum is considered by some to be one of the most desirable and attractive wildflowers to occur in Arkansas. It is not the most common plant and is mostly found in moist but well-drained areas adjacent to streams and other wet lands where water does not stand. It is in the *Liliaceae* or lily family but I have no idea why such a delightful wildflower should be called "Devil's bit", and at the other extreme "fairy wand" among so many other common names. It must have been used for so many medicinal purposes by the pioneers who needed any medicine that they could improvise. The species is a dioecious perennial plant, meaning that the plants are composed of single, spikelike racemes of white flowers that are either all female or all male. Both come from early spring basal rosettes of mostly obovate form, giving way to an erect stem with leaves diminishing in size up to two feet tall. The sex differences of the racemes are apparent; female plants are taller and more leafy than the male plants and the racemes of the female are described as whiter, and the flowering stems having progressively smaller leaves to a terminal group of flowers ("wand"), growing over two feet tall and the male blossoms on a curved raceme, much smaller. Both sexes have basal rosettes of leaves. These are considered to be beautiful rare plants and should be propagated by seeds rather than by collected plants.

For herbarium specimens, the plants turn yellowish, hence the specific name of *luteum* which means yellow or yellowish. It is garden worthy but a bit more demanding than other wildflowers. The plant is relished by the native white-tailed deer and this makes for the plants to be rarer in the wild. And in the wild, they are usually found locally but in few numbers. They seldom make large colonies so this is a species to really enjoy where they are seen.

-The End

New ANPS Members

Wow. We're really growing! The following new members have joined the Arkansas Native Plant Society since the last issue of *Claytonia*:

John & Margaret Alexander (Pine Bluff, AR)
 Ruth Andre (Hector, AR)
 Cathy Bayne (Marshall, AR)
 Joellen Beard (Little Rock, AR)
 Stephen & Christine Beauchamp (Hot Springs Village, AR)
 George W. Bledsoe (Hot Springs, AR)
 Ellen Carpenter (North Little Rock, AR)
 Shannon Chamberlin (Little Rock, AR)
 Kay Cromwell (White Hall, AR)
 Beth Erwin (Collinston, LA)
 David Felts (Pine Bluff, AR)
 Susan Hardin & Barry Haas (Little Rock, AR)
 Meryl Hattenbach (Little Rock, AR)
 Katrina Hayes (Portland, TN)
 Steven Hunter (Fort Smith, AR)
 Olin Karch (Lawrence, KS)
 Sharon Keller (Mountainburg, AR)
 Pat King (Hagarville, AR)
 Gelene G. Macdowell (Fort Smith, AR)
 John T. McBride (Shreveport, LA)
 Charlotte McIntyer (Little Rock, AR)
 Tim McMillan (Fort Smith, AR)
 Maria Melnechuk (Little Rock, AR)
 Carolyn Minson (Hot Springs Village, AR)
 Becky & John Morgan (Arkadelphia, AR)
 Sarah Nunn (Fayetteville, AR)
 Charlotte Parnell (Hot Springs, AR)
 Karl & Matilda Pheiffer Foundation (Piggott, AR)
 Lucinda M. Reynolds (Mountain Home, AR)
 Eugene Seavers Jr. (Little Rock, AR)
 Tim Scott (Benton, AR)
 Michael Thennes (Alexander, AR)
 Cindy Tisdale (Little Rock, AR)
 Gay Vekovius (Shreveport, LA)
 Leah & Anthony Wilcox (Sarasota, FL)
 Jason D. Williams (Cherokee Village, AR)
 Olivia Wyatt (Little Rock, AR)

We welcome these new members to the ANPS!

Flora Project Memorials

A donation was made to the Arkansas Flora Project in memory of Marion Moriarty (4 Caparoso Lane, Hot Springs Village, AR 71909) by Don Crank.

Contact Dr. Johnnie Gentry at 479.575.4372 for info on memorials.

ANPS Classifieds

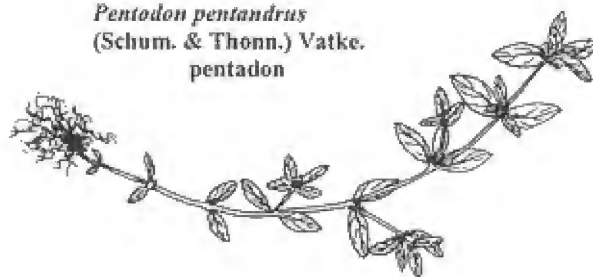
Beginning this issue, a limited amount of space will be available in each issue of Claytonia for classified ads. If you are looking for seeds of a particular plant, sites for a research project, etc., please send a brief classified to the Claytonia address. The following were received for inclusion in this issue:

My name is Lindsey Bell, and I am a junior biology major at the University of Arkansas. I am beginning research in the spring, supervised by a professor, for my thesis project. My research centers around *Hottonia inflata* (water violet), a plant that grows in the wetland areas of Arkansas. I am searching for reliable sites from which to collect samples of this plant. I would greatly appreciate receiving any information about locations in Arkansas where this plant can be found. Thank you. Lindsey Bell / 502 West Maple / Fayetteville, AR 72701 / Email: leb04@uark.edu / Ph: 501.733.4137.

I am working on a comprehensive floristic inventory of Saline County for my Masters thesis at the University of Arkansas at Little Rock. I am looking for sites in Saline County where I can collect plant specimens. I am particularly interested in the following habitats: pastures or hayfields that aren't solid monocultures of fescue or Bermuda grass (both wet and dry), seeps or bogs, open (non-forested) wetlands, forested swamps and flatwoods, sandbars and other disturbed wet areas, old grown-up yards, burned-over or otherwise open woods (especially wet pine woods), glades of any kind, and any other unusual habitat. If you have land that I could collect on (or know someone who does), please get in touch. Theo Witsell / 501.614.8465 (H) / 501.324.9615 (W) / theo@arkansasheritage.org / or write the Claytonia address. Thanks.

I am looking for seeds of the following: *Carya cordiformis* (bitternut hickory), *Carya glabra* (pignut hickory), *Carya myristiciformis* (nutmeg hickory), *Carya ovalis* (red hickory), *Fraxinus caroliniana* (pumpkin ash), *Prunus rivularis* (creek plum), *Viburnum acerifolium* (mapleleaf viburnum), *Viburnum ozarkense*, *Viburnum rafinesquianum*, *Symplocos tinctoria* (sweet leaf or horse sugar), *Amorpha paniculata*, *Hamamelis macrophylla* & any native *Ribes* or *Vaccinium*. I'll trade seeds or plants or pay postage. Thanks. MaryAnn King / P O Box 200 / London, AR 72847 / office@pineridgegardens.com.

Pentodon pentandrus
 (Schum. & Thonn.) Vatke.
 pentadon



Notes from the Editor

by Theo Witsell

Several years ago I heard a song called "They Can't Put It Back" by Rich Kirby and Michael Kline, two folksingers from the southern Appalachians. The song was about the way the coal industry in Kentucky and West Virginia was changing the landscape forever by removing the tops of the mountains to get at the coal underneath. In this particular procedure, at least as it was done at the time, the forest was clearcut and the dirt and rock were removed from the mountain tops and pushed into the adjacent hollows, right on top of the streams and caves and whatever else was down below. The end result, after the coal was removed, was a relatively barren, "averaged out" landscape with a surface lower than the mountains and higher than the valleys. Needless to say, this sort of activity is hard on the water quality, not to mention the native plants and animals. It doesn't take an ecologist to realize that many of the things that were there before are now gone forever, at least from that particular place.

The lyrics of the song made a lasting impression. They tell of an enormous walking dragline, a piece of strip-mining equipment that can do the work of a thousand men, in a fraction of the time - a marvel of human engineering that stands ten stories high and eats rocks. This machine is capable of incredible feats. It is so efficient at removing the rocks and dirt on top of the coal, but, as the song points out, it isn't capable of operating in reverse...

*"Oh, the ground it can eat, it's a sight...
it can rip out a hundred tons in a bite...
it can eat up the grass, it's a fact...
but it can't put it back..."*

These words returned to me at an ecological conference in Georgia a few weeks ago. I was looking at a display with a wonderful and detailed map showing the vegetation of Kentucky. There were many shades and colors showing where the various oak-hickory and oak-pine associations occur in the landscape, where the prairie and savanna regions are, etc. I noticed large areas that were represented in solid black, an unusual color in a vegetation map. These areas were concentrated in the Ridge and Valley and Cumberland Plateau Natural Divisions. Must be some sort of glade or unusual geologic formation, I thought. When I looked next to the black color in the map legend, the words "mined lands" stared back at me. I looked back at the map, unprepared for how much of the landscape was mapped as such. The words flooded my head as I stared at the map...

*"Look at that big machine go...
took that shady grove a long time to grow...
It can rip it out with one whack...
but it can't put it back..."*

Later, flying back to Little Rock after the conference was over, I looked out over the vast Mississippi Alluvial Plain of eastern Arkansas. From 30,000 feet it looks flat as a pancake (though it isn't really). It was on this same flight from Atlanta to Little Rock, ten years earlier, that I looked out on this same landscape and realized what I was to do with the rest of my life.

Conservation. It was looking out that window in 1993 that I first understood how much of the bottomland hardwood forest and the swamps were gone. The realization that, in just 150 years, we had decimated the largest bottomland hardwood forest in North America had a big impact on me. My life and its path changed right there on the plane. Looking back, it was well worth the price of the ticket. Now, ten years later, I was looking down on the same sea of scraped earth thinking of eastern Kentucky.

As I stared down at the ground I pondered the Kirby and Kline lyrics. Can we put it back? In some ways, the story of the bottomland hardwoods is similar to the story of the mined lands. They will never fully recover. They'll never be the same as they once were. In other ways though, the bottomland forests are different. They are more resilient. If we restore the hydrology, the patterns of water on the ground, we can replant these forests. It is much easier than putting those mountains back in Kentucky. After a while, I looked down and saw that we were flying over the Grand Prairie. It is perhaps a better analog to the mined lands. The prairie is a very complex ecosystem with intricate associations of plants and animals. There are more species here than in the bottomland forests, and it is even further gone. In the Grand Prairie, only 0.1% of the grasslands remain. 430 acres at last count, out of about 400,000* in the 1830s when the Louisiana Purchase was surveyed. As an exercise in stating the obvious, that's 99.9% destroyed.

Even the isolated little remnants are rich with life, despite the altered hydrology, herbicide drift, landscape fragmentation, and invasive species that plague them. The Railroad Prairie Natural Area - a stretch of abandoned railroad right-of-way averaging about 100 feet wide and extending, in broken segments, from Carlisle to DeValls Bluff along the north side of State Highway 70 - is a good example. The presence of the railroad kept this strip safe from the plow. For prairie, with all its complexity and diversity, cannot survive the plow.

I stop by the Railroad Prairie whenever I am in the area to collect plants and look for new populations of some of the rare species there. An ongoing inventory project has documented more than 360 different kinds of plants from this little sliver of prairie and woodland. Not only is this a substantial diversity, but many of the species found there are far, far away from the other places they are known to occur. Over the years a number of species have been found there that link the Grand Prairie with the coastal prairies of Louisiana and Texas. There is pine barrens purpletop (*Tridens ambiguus*), shortleaf skeletongrass (*Gymnopogon brevifolius*), wrinkled jointtail (*Coelorachis rugosa*), pineywoods dropseed (*Sporobolus junceus*), Maryland milkwort (*Polygala mariana*), and the rare savanna milkweed (*Asclepias obovata*). There are other species that are disjunct from our Ozark Mountain prairies including prairie dropseed (*Sporobolus heterolepis*), tall dropseed (*Sporobolus compositus* var. *compositus*), early goldenrod (*Solidago juncea*), and downy

gentian (*Gentiana puberulenta*). Still other species are very far from their main range, like the sand cherry (*Prunus pumila* var. *susquehenae*), which is seldom found south of the upper Midwest.

Many of these species were found for the first time in the last year, though dozens of great botanists have worked the area since Thomas Nuttall traveled through in 1819! Perhaps they had just been overlooked. Perhaps they are showing up as the result of better management in recent years, particularly the reintroduction of rejuvenating prairie fire. Fire, we now understand, is essential to the life of the prairie. With these treasures still being found, we can only imagine what was lost with the other 399,570 less fortunate acres.

Now there is even more reason for hope. Today a new chapter is being written in the history of the Grand Prairie. People are beginning to work toward putting some of the prairie back. Seeds are being collected and new grass is growing in propagation fields in the region. Inventory is continuing and the picture is coming together of what grew where. It is true that we cannot entirely replace what has been lost, but we can do our best to put back as many of the pieces as possible. It is logical. It is right. It is our responsibility.

Happy New Year!

P.S. I got a number of complaints about the last issue arriving mangled beyond recognition. Hopefully the envelopes will solve this problem. Thank you.

* Earlier estimates put this figure at approx. 320,000 acres but recent data from digitized original land survey plats put the area at about 400,000 acres.

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Aster patens—late purple aster

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